



STIC Search Report

EIC 1700

STIC Database Tracking Number: 64488

TO: Shruti S Costales

Location: REM 10A34

Art Unit : 1714 1001

February 15, 2005

Case Serial Number: 10/053396

From: Usha Shrestha

Location: EIC 1700

REMSEN 4B28

Phone: 571/272-3519

usha.shrestha@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

Mellerson, Kendra

From: Costales, Shruti S.
Sent: Thursday, February 10, 2005 8:56 AM
To: STIC-EIC1700
Subject: Request for Search - 10/053,396

Attached you will find .bmp (via the Snag It program) files containing images of the independent claims for this case. Please perform a search for ALL FOUR independent claims. Each of the four claims was split in two pages therefore there are two files for each independent claim.

Do not hesitate to contact me if you have any questions.

Thanks!

Claim 1 for STIC (first part)...

Claim 1 for STIC (last part).b...

Claim 14 for STIC (first part)...

Claim 14 for STIC (last part)...

Claim 15 for STIC (first part)...

Claim 15 for STIC (last part)...

Claim 17 for STIC (first part)...

Claim 17 for STIC (last part)...

Sincerely,

Shruti S. Costales
Patent Examiner
Art Unit 1714
Remsen Building - 10-A34
400 Dulany Street
Alexandria, VA 22314
Office Phone: (571) 272-8389

<mailto:shruti.costales@uspto.gov>



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BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 1281

SERIAL NUMBER 10/053,396	FILING DATE 01/17/2002 RULE	CLASS 524	GROUP ART UNIT 1714	ATTORNEY DOCKET NO. 56313US009
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APPLICANTS

Rudolf J. Dams, Antwerp, BELGIUM;

** CONTINUING DATA *****

** FOREIGN APPLICATIONS *****

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
 ** 02/14/2002

Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY BELGIUM	SHEETS DRAWING 0	TOTAL CLAIMS 17	INDEPENDENT CLAIMS 4
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Verified and Acknowledged
 Examiner's Signature _____ Initials _____

ADDRESS
 32692
 3M INNOVATIVE PROPERTIES COMPANY
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 ST. PAUL , MN
 55133-3427

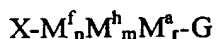
TITLE
 Fluorochemical composition comprising a fluorochemical oligomeric silane for rendering substrates oil and water repellent

FILING FEE RECEIVED 954	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____
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ABSTRACT

FLUOROCHEMICAL COMPOSITION COMPRISING A FLUOROCHEMICAL OLIGOMERIC SILANE FOR RENDERING SUBSTRATES OIL AND WATER REPELLENT

A fluorochemical composition comprising a major amount of organic solvent and 0.05% by weight to 5% by weight of fluorochemical oligomer dispersed or dissolved in said organic solvent and said fluorochemical oligomer being represented by the general formula:

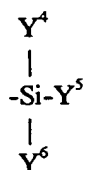


wherein X represents the residue of an initiator or hydrogen;

M^f represents units derived from fluorinated monomers;

M^h represents units derived from a non-fluorinated monomers;

M^a represents units having a silyl group represented by the formula:



wherein each of Y^4 , Y^5 and Y^6 independently represents an alkyl group, an aryl group or a hydrolyzable group;

G is a monovalent organic group comprising the residue of a chain transfer agent;

n represents a value of 1 to 100;

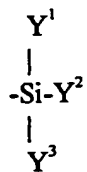
m represents a value of 0 to 100;

r represents a value of 0 to 100;

and $n+m+r$ is at least 2;

with the proviso that at least one of the following conditions is fulfilled: (a) G is a

monovalent organic group that contains a silyl group of the formula:

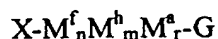


wherein Y^1 , Y^2 and Y^3 each independently represents an alkyl group, an aryl group or a hydrolyzable group with at least one of Y^1 , Y^2 and Y^3 representing a hydrolyzable group; or (b) r is at least 1 and at least one of Y^4 , Y^5 and Y^6 represents a hydrolyzable group.

20250303 14:30:00

What is claimed is:

1. A fluorochemical composition comprising a major amount of organic solvent and 0.05% by weight to 5% by weight of fluorochemical oligomer dispersed or dissolved in said organic solvent and said fluorochemical oligomer being represented by the general formula:

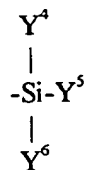


wherein X represents the residue of an initiator or hydrogen;

M^f represents units derived from fluorinated monomers;

- 10 M^h represents units derived from a non-fluorinated monomers;

M^a represents units having a silyl group represented by the formula:



wherein each of Y^4 , Y^5 and Y^6 independently represents an alkyl group, an aryl group or a hydrolyzable group;

- 15 G is a monovalent organic group comprising the residue of a chain transfer agent;

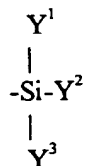
n represents a value of 1 to 100;

m represents a value of 0 to 100;

r represents a value of 0 to 100;

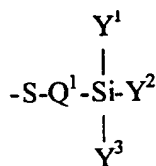
and $n+m+r$ is at least 2;

- 20 with the proviso that at least one of the following conditions is fulfilled: (a) G is a monovalent organic group that contains a silyl group of the formula:



wherein Y^1 , Y^2 and Y^3 each independently represents an alkyl group, an aryl group or a hydrolyzable group with at least one of Y^1 , Y^2 and Y^3 representing a hydrolyzable group; or (b) r is at least 1 and at least one of Y^4 , Y^5 and Y^6 represents a hydrolyzable group.

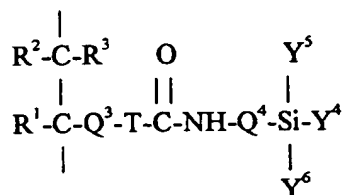
- 5 2. Fluorochemical composition according to claim 1 wherein at least one of Y^1 , Y^2 and Y^3 and/or at least one of Y^4 , Y^5 and Y^6 is a hydrolyzable group selected from the group consisting of halogen, an alkoxy group, an acyloxy group, an acyl group and an aryloxy group.
- 10 3. Fluorochemical composition according to claim 1 wherein said monovalent organic group G corresponds to the general formula:



- 15 wherein Y^1, Y^2, Y^3 have the meaning as defined in claim 1 or 2 and wherein Q^1 represents an organic divalent linking group.

4. Fluorochemical composition according to claim 1 wherein M^f comprises a unit derived from a fluorinated monomer of the formula:
 $C_4F_9-Q^2-E^1$
- 20 wherein E^1 represents a free radical polymerizable group and Q^2 represents an organic divalent linking group.

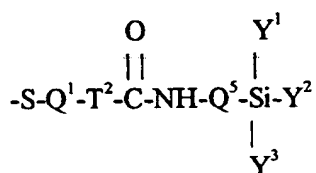
5. Fluorochemical composition according to claim 1 wherein M^a is a unit derived corresponding to the formula:



wherein R^1 , R^2 and R^3 each independently represents hydrogen, an alkyl group, an aryl group or halogen, Q^3 represents an organic divalent linking group, T represents O or NR with R being hydrogen, an aryl or a C_1 - C_4 alkyl group, and Y^4 , Y^5 and Y^6 have the meaning as defined in claim 1.

5

6. Fluorochemical composition according to claim 1 wherein G corresponds to the formula:



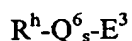
10 wherein Q^1 and Q^5 each independently represents an organic divalent linking group, T^2 represents O or NR with R being hydrogen, an aryl or a C_1 - C_4 alkyl group, and Y^1 , Y^2 and Y^3 have the meaning as defined in claim 1.

- 15 7. Fluorochemical composition according to claim 1 wherein the composition is a homogeneous composition further comprising water and an organic or inorganic acid.

15

8. Fluorochemical composition according to claim 1 wherein the units derived from non-fluorinated monomers are units derived from non-fluorinated monomers corresponding to the general formula:

20



wherein R^h represents a hydrocarbon group, Q^6 is a divalent linking group, s is 0 or 1 and E^3 is a free radical polymerizable group.

- 25 9. Method of treating a substrate comprising applying to said substrate a composition according to claim 1.

25

10. Method of treating a substrate comprising applying to said substrate a composition according to claim 1 and exposing a thus obtained coated substrate to water and an organic or inorganic acid.

11. Method of treating a substrate according to claim 9 further comprising the step of exposing the coated substrate to an elevated temperature of 60°C to 300°C.

5 12. Method according to claim 9 wherein said substrate is selected from the group consisting of plastics, ceramics and glass.

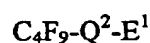
13. Substrate comprising a coating derivable from the coating composition of any of claim 1 wherein the substrate is selected from the group consisting of plastics, ceramics and
10 glass.

14. Fluorochemical oligomer corresponding to the formula:



wherein X represents the residue of an initiator or hydrogen;

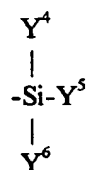
15 M^f represents units derived from fluorinated monomers having the formula:



wherein E^1 represents a free radical polymerizable group and Q^2 represents an organic divalent linking group;

M^h represents units derived from non-fluorinated monomers;

20 M^a represents units having a silyl group represented by the formula:



wherein each of Y^4 , Y^5 and Y^6 independently represents an alkyl group, an aryl group or a hydrolyzable group, with the proviso that at least one of Y^4 , Y^5 and Y^6 represents a hydrolyzable group;

25 G represents a monovalent organic group comprising the residue of a chain transfer agent;

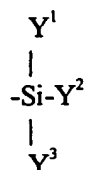
n represents an integer of 1 to 100;

m represents an integer of 0 to 100;

r represents an integer of 0 to 100;

and n+m+r is at least 2;

with the proviso that at least one of the following conditions is fulfilled: (a) G is a monovalent organic group that contains a silyl group of the formula:



5

wherein Y^1 , Y^2 and Y^3 each independently represents an alkyl group, an aryl group or a hydrolyzable group with at least one of Y^1 , Y^2 and Y^3 representing a hydrolyzable group; or (b) r is at least 1 and at least one of Y^4 , Y^5 and Y^6 represents a hydrolyzable group.

10 15. Fluorochemical oligomer having the formula:

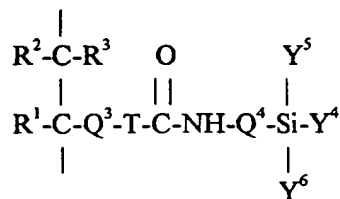


wherein X represents the residue of an initiator or hydrogen;

M^f represents units derived from fluorinated monomers;

M^h represents units derived from non-fluorinated monomers;

15 M^a represents units having the formula:

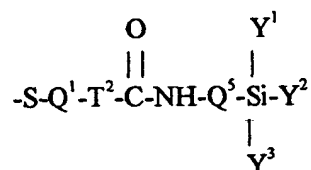


20 wherein R^1 , R^2 and R^3 each independently represents hydrogen, an alkyl group, an aryl group or halogen, Q^3 represents an organic divalent linking group, T represents O or NR with R being hydrogen, an aryl or a C_1 - C_4 alkyl group, and wherein each of Y^4 , Y^5 and Y^6 independently represents an alkyl group, an aryl group or a hydrolyzable group, with the proviso that at least one of Y^4 , Y^5 and Y^6 represents a hydrolyzable group; G represents a monovalent organic group comprising the residue of a chain transfer agent;

n represents an integer of 1 to 100;
 m represents an integer of 0 to 100;
 r represents an integer of 1 to 100;
 and n+m+r is at least 2.

5

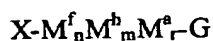
16. Fluorochemical oligomer according to claim 15 wherein G corresponds to the formula:



10

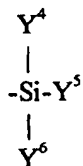
wherein Q¹ and Q⁵ each independently represents an organic divalent linking group, T² represents O or NR with R being hydrogen, an aryl or a C₁-C₄ alkyl group, and Y¹, Y² and Y³ each independently represents an alkyl group, an aryl group or a hydrolyzable group with at least one of Y¹, Y² and Y³ representing a hydrolyzable group.

17. Fluorochemical oligomer having the formula:



15

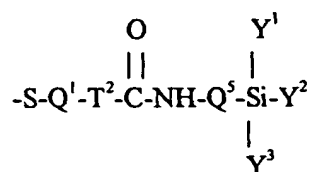
wherein X represents the residue of an initiator or hydrogen;
 M^f represents units derived from fluorinated monomers;
 M^h represents units derived from a non-fluorinated monomers;
 M^a represents units having a silyl group represented by the formula:



20

wherein each of Y⁴, Y⁵ and Y⁶ independently represents an alkyl group, an aryl group or a hydrolyzable group, with the proviso that at least one of Y⁴, Y⁵ and Y⁶ represents a hydrolyzable group;

G corresponds to the formula:



- wherein Q^1 and Q^5 each independently represents an organic divalent linking group, T^2 represents O or NR with R being hydrogen, an aryl or a C_1 - C_4 alkyl group, and Y^1 , Y^2 and Y^3 each independently represents an alkyl group, an aryl group or a hydrolyzable group with at least one of Y^1 , Y^2 and Y^3 representing a hydrolyzable group;
- 5 n represents an integer of 1 to 100;
- m represents an integer of 0 to 100;
- r represents an integer of 0 to 100;
- and $n+m+r$ is at least 2.

10

Access DB# 44827**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Shrofi, Costas Examiner #: 80837 Date: 2/10/05
Art Unit: 1714 Phone Number 301-23389 Serial Number: 101053396
Mail Box and Bldg/Room Location: 10A24 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

SCIENTIFIC REFERENCE BR.
Sci. & Tech. Inf. Ctr.
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	Type of Search	Vendors and cost where applicable
Searcher: <u>456</u>	NA Sequence (#) _____	STN <u>\$ 565.90</u>
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Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>2/15/05</u>	Bibliographic _____	Dr. Link _____
Date Completed: <u>2/15/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>90</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>60</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>200</u>	Other _____	Other (specify) _____

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E US20030171484/PN

L1 1 S E3
SEL L1 RN

FILE 'REGISTRY' ENTERED AT 09:22:19 ON 15 FEB 2005
L2 12 S E1-E12

FILE 'LREGISTRY' ENTERED AT 10:22:25 ON 15 FEB 2005

L3 STR
L4 STR

FILE 'REGISTRY' ENTERED AT 10:27:44 ON 15 FEB 2005

L5 50 S L3
L6 50 S L4
L7 SCR 2043
L8 50 S L3 AND L7
L9 50 S L4 AND L7
L10 50 S L3 AND L4 AND L7
L11 4529 S L10 FUL

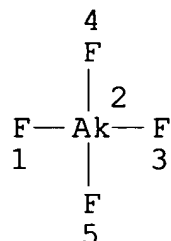
FILE 'HCAPLUS' ENTERED AT 11:01:55 ON 15 FEB 2005

L12 2171 S L11
L13 1567 S L12(L) PREP/RL
L14 351 S L13(L) COMPOSITION?
L15 115 S L14(L) COAT?
L16 7 S L14(L) COAT?(3A) (PLASTIC? OR CERAMIC? OR GLASS?)
L17 37 S L14(L) COAT? AND (PLASTIC? OR CERAMIC? OR GLASS?)
L18 167 S L13(L) COAT? AND (PLASTIC? OR CERAMIC? OR GLASS?)
L19 36 S L13(L) COAT?(2A) (PLASTIC? OR CERAMIC? OR GLASS?)
L20 1 S L19 AND L1
L21 113 S L14 AND COATING?/SC
L22 38 S L21 AND (PLASTIC? OR CERAMIC? OR GLASS?)
L23 23 S L22 AND SUBSTRATE?
L24 56 S L23 OR L19
SEL L24 HIT RN

FILE 'REGISTRY' ENTERED AT 11:27:18 ON 15 FEB 2005
SAV L11 COS053/A

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L3 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

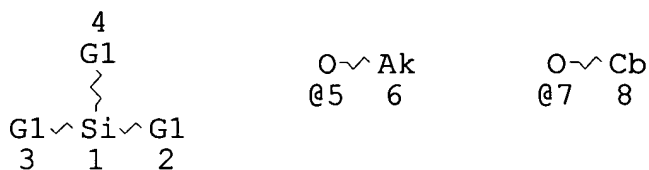
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L4 STR



VAR G1=AK/CB/X/5/7

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L7 SCR 2043

L11	4529	SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L7
L12	2171	SEA FILE=HCAPLUS ABB=ON PLU=ON L11
L13	1567	SEA FILE=HCAPLUS ABB=ON PLU=ON L12 (L) PREP/RL
L14	351	SEA FILE=HCAPLUS ABB=ON PLU=ON L13 (L) COMPOSITION?
L19	36	SEA FILE=HCAPLUS ABB=ON PLU=ON L13 (L) COAT? (2A) (PLASTI C? OR CERAMIC? OR GLASS?)
L21	113	SEA FILE=HCAPLUS ABB=ON PLU=ON L14 AND COATING?/SC
L22	38	SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND (PLASTIC? OR CERAMIC? OR GLASS?)

L23 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 AND SUBSTRATE?
L24 56 SEA FILE=HCAPLUS ABB=ON PLU=ON L23 OR L19

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L24 ANSWER 1 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:738938 HCAPLUS

DOCUMENT NUMBER: 141:244991

TITLE: Acrylic resin coating composition,
water-repellent thin film coating, and
composite material

INVENTOR(S): Takami, Kazuyuki; Nakajima, Akira

PATENT ASSIGNEE(S): Center for Advanced Science and Technology
Incubation, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

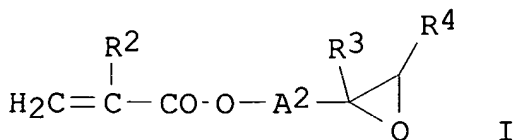
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004250505	A2	20040909	JP 2003-40200	2003 0218

PRIORITY APPLN. INFO.: JP 2003-40200

2003
0218

2003
0218

GI



AB The composition contains (a) a copolymer comprising
 $\text{CH}_2:\text{C}(\text{R}_1)\text{CO}_2\text{A}_1(\text{CF}_2)_a[\text{CF}(\text{CF}_3)]_b\text{CF}_3$ ($\text{R}_1 = \text{H, Me}$; $\text{A}_1 = \text{direct bond, C1-4 alkylene}$; $a = 1-20$; $b = 0, 1$) 0.8-22, epoxy-containing
(meth)acrylate I ($\text{R}_2, \text{R}_3 = \text{H, Me}$; $\text{A}_2 = \text{direct bond, C1-10 alkylene}$
which may involve ether linkage; $\text{R}_4 = \text{H, C1-10 alkyl}$) 23-93,
 $\text{CH}_2:\text{C}(\text{R}_5)\text{CO}_2\text{A}_3\text{M}(\text{OR}_6)_m-1$ ($\text{R}_5 = \text{H, Me}$; $\text{A}_3 = \text{C1-10 alkylene}$; $\text{M} =$
metal forming stable alkoxide; $\text{R}_6 = \text{C1-6 alkyl}$; $m = \text{valency of M}$)
6-14, and other polymerizable ethylenic unsatd. compound 0-70 mol%,
(b) a compound having ≥ 2 group reactive with epoxy, which can
be dissolved in solvents comprising ketones, ester, and/or aromatic
hydrocarbons, and (c) 30-98% of the solvents. The thin film
coating is made of the composition, which shows retention of water
repellency after sliding. The composite material is made of a
substrate and the thin film coating on the surface. Thus,
3 g 25:71:25:80 Me methacrylate-glycidyl methacrylate-
methacryloxypropyltrimethoxysilane-perfluorooctylethyl
methacrylate copolymer, 6 g polyoxypropylenediamine, and 91 g Me
Et ketone were mixed to give the composition, which was spin-coated on
a **glass substrate**, dried at room temperature for 5
min, and aged at 120° for 84 h to give a 149-nm coating
showing haze 1.1% and water contact angle 111° .

IT **745031-59-8P 748151-58-8P 748151-59-9P**
(acrylic resin **composition** for coating showing retention
of water repellency under sliding)

RN 745031-59-8 HCAPLUS

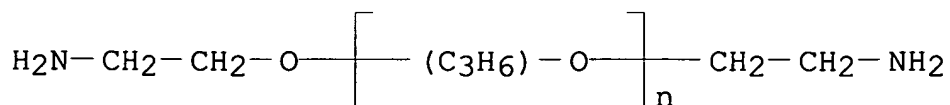
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl ester, polymer with α -(2-
aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-
ethanediyl)], methyl 2-methyl-2-propenoate, oxiranylmethyl
2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 9046-10-0

CMF $(\text{C}_3 \text{H}_6 \text{O})_n \text{C}_6 \text{H}_{16} \text{N}_2 \text{O}$

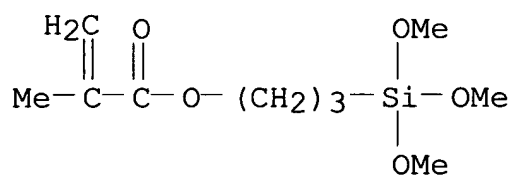
CCI IDS, PMS



CM 2

CRN 2530-85-0

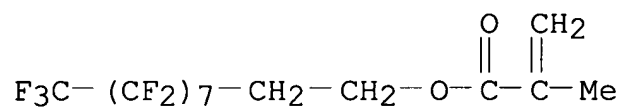
CMF C10 H20 O5 Si



CM 3

CRN 1996-88-9

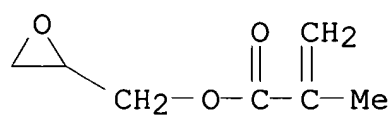
CMF C14 H9 F17 O2



CM 4

CRN 106-91-2

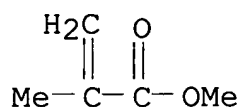
CMF C7 H10 O3



CM 5

CRN 80-62-6

CMF C5 H8 O2



RN 748151-58-8 HCAPLUS

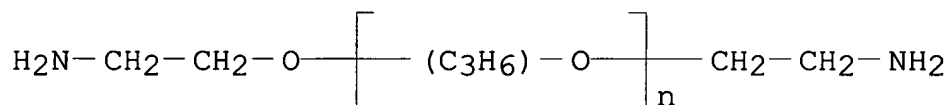
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)], oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 9046-10-0

$$\text{CMF} \quad (\text{C}_3 \text{ H}_6 \text{ O})_n \text{ C}_6 \text{ H}_{16} \text{ N}_2 \text{ O}$$

CCI IDS, PMS

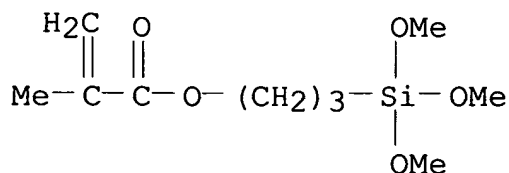


2 (D1-Me)

CM 2

CRN 2530-85-0

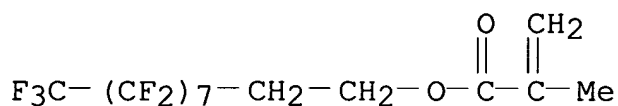
CMF C10 H20 O5 Si



CM 3

CRN 1996-88-9

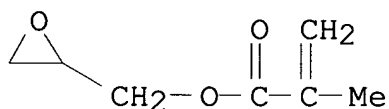
CMF C14 H9 F17 O2



CM 4

CRN 106-91-2

CMF C7 H10 O3



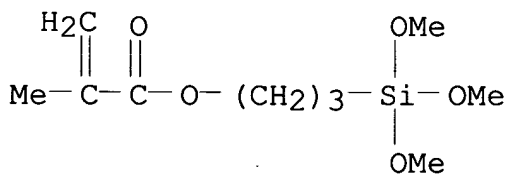
RN 748151-59-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with 2,5-furandione, methyl 2-methyl-2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

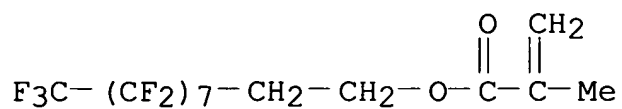
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

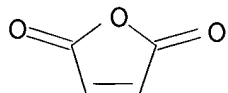
CMF C14 H9 F17 O2



CM 3

CRN 108-31-6

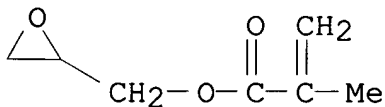
CMF C4 H2 O3



CM 4

CRN 106-91-2

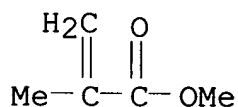
CMF C7 H10 O3



CM 5

CRN 80-62-6

CMF C5 H8 O2



IC ICM C09D133-14

ICS B05D005-08; B05D007-24; B32B009-00; B32B015-08; B32B027-30;
C08F220-32; C09D133-16; C09D143-00; C09K003-18; C08F220-24;
C08F230-04

CC 42-7 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 38, 56, 57

ST acrylic coating water repellency retention sliding; methyl methacrylate methacryloxypropyltrimethoxysilane copolymer coating; perfluorooctylethyl methacrylate copolymer; polyoxypropylenediamine glycidyl methacrylate copolymer coating; ethyl methyl ketone soln coating; **glass substrate** acrylic resin thin film

IT **Glass**, uses
(**substrate**; acrylic resin composition for coating showing retention of water repellency under sliding)

IT **745031-59-8P 748151-58-8P 748151-59-9P**
(acrylic resin **composition** for coating showing retention of water repellency under sliding)

IT 25038-59-9, PET (polyester), uses
(film **substrate**; acrylic resin composition for coating showing retention of water repellency under sliding)

IT 7429-90-5, Aluminum, uses
(**substrate**; acrylic resin composition for coating showing retention of water repellency under sliding)

L24 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:612176 HCAPLUS
DOCUMENT NUMBER: 141:141962
TITLE: Coating compositions with good antifouling, weather resistance, and adhesion
INVENTOR(S): Masutani, Tetsuya; Nagato, Hiroshi; Mori, Haruhiko
PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004210975	A2	20040729	JP 2003-425	2003 0106

PRIORITY APPLN. INFO.:

JP 2003-425

2003
0106

AB Title compns. comprise (A) functional group-containing fluoropolyolefins and/or functional group-containing fluoro acrylic polymers, and (B) ≥ 1 silicon-containing fluorocompound selected from low mol. weight fluoro compds. $\text{RfSi}(\text{OR})_n\text{R}_{23-n}$ and

YSi(OR₁)_nR₂³⁻ⁿ, wherein R_f = linear or branched C₃-20 a nonhydrolyzable fluoroalkyl group which may contain functional groups, O and/or N; Y = nonhydrolyzable C_{≥21} a fluoroolefin copolymer radical not having functional groups or a (functional group-containing) C_{≥21} fluoro-containing acrylic polymer radical, a fluoro-containing polyether radical, a fluoro-containing polyester radical, or fluoro-containing polyurethane; R₁ = C₁-10 nonfluoroalkyl, N:CR₃R₄, or C(:O)R₅; R₂ = H or C₁-20 a nonfluoroalkyl group or R_f; R₃, R₄, R₅ = C₁-10 a nonfluoro alkyl group; and n = 1-3 integer. Thus, a composition comprising Zeffle GK 510 100, 3-isocyanatopropyltrimethoxysilane 5, Coronate HX 5, 2-perfluorooctylethyltrimethoxysilane 5, and Bu acetate 50 parts was applied on a flexible board and dried at room temperature for 1 wk to give a test piece with good oily ink, waste mission oil, and lacquer contamination resistance, weather resistance, and adhesion.

IT **726389-99-7P 726390-05-2P 726390-11-0P
727415-71-6P**

(coating **compns.** with good antifouling, weather resistance, and adhesion)

RN 726389-99-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, (3-isocyanatopropyl)trimethoxysilane, octadecyl 2-propenoate and Zeffle GK 510 (9CI) (CA INDEX NAME)

CM 1

CRN 166090-98-8

CMF Unspecified

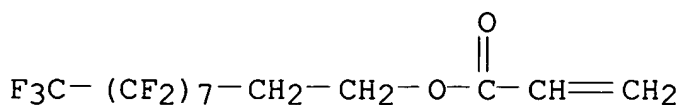
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 27905-45-9

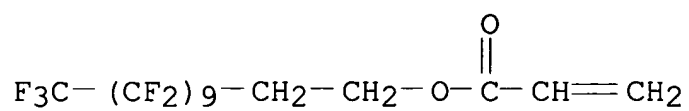
CMF C13 H7 F17 O2



CM 3

CRN 17741-60-5

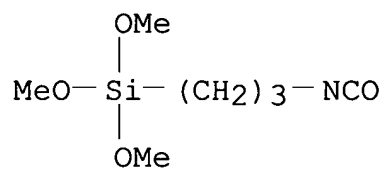
CMF C15 H7 F21 O2



CM 4

CRN 15396-00-6

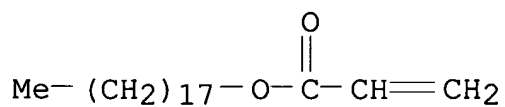
CMF C7 H15 N O4 Si



CM 5

CRN 4813-57-4

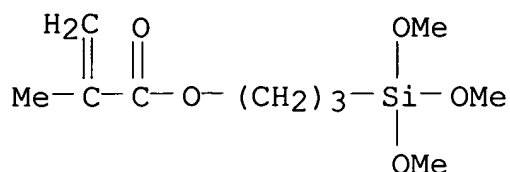
CMF C21 H40 O2



CM 6

CRN 2530-85-0

CMF C10 H20 O5 Si



RN 726390-05-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with Coronate HX, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, octadecyl 2-propenoate and Zeffle GK 510 (9CI) (CA INDEX NAME)

CM 1

CRN 166090-98-8

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 144245-98-7

CMF Unspecified

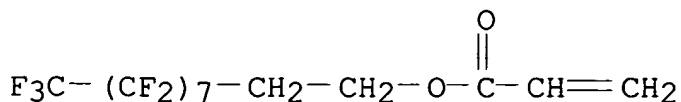
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 27905-45-9

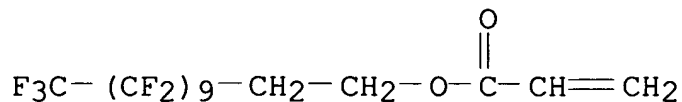
CMF C13 H7 F17 O2



CM 4

CRN 17741-60-5

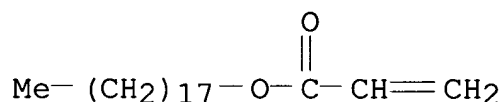
CMF C15 H7 F21 O2



CM 5

CRN 4813-57-4

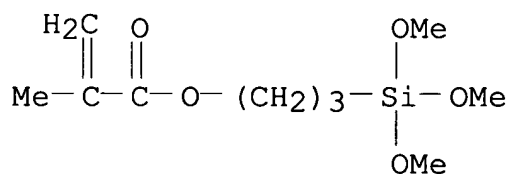
CMF C21 H40 O2



CM 6

CRN 2530-85-0

CMF C10 H20 O5 Si



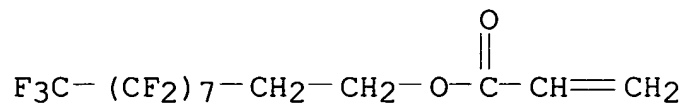
RN 726390-11-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 1-(ethenyloxy)butane, ethenyltrimethoxysilane, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, 2-methyl-1-propene, octadecyl 2-propenoate and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 27905-45-9

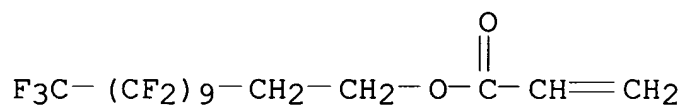
CMF C13 H7 F17 O2



CM 2

CRN 17741-60-5

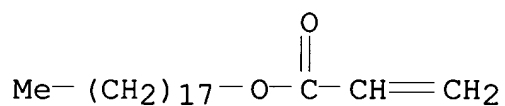
CMF C15 H7 F21 O2



CM 3

CRN 4813-57-4

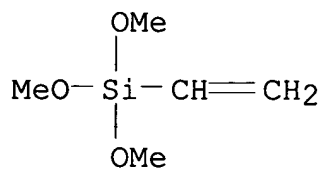
CMF C21 H40 O2



CM 4

CRN 2768-02-7

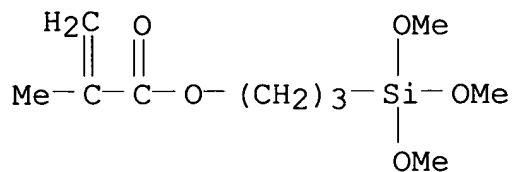
CMF C5 H12 O3 Si



CM 5

CRN 2530-85-0

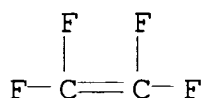
CMF C10 H20 O5 Si



CM 6

CRN 116-14-3

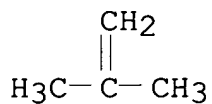
CMF C2 F4



CM 7

CRN 115-11-7

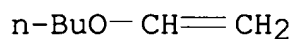
CMF C4 H8



CM 8

CRN 111-34-2

CMF C6 H12 O



RN 727415-71-6 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxy-, polymer with Coronate HX, (3-isocyanatopropyl)trimethoxysilane and Zeffle GK 510 (9CI) (CA INDEX NAME)

CM 1

CRN 166090-98-8

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 144245-98-7

CMF Unspecified

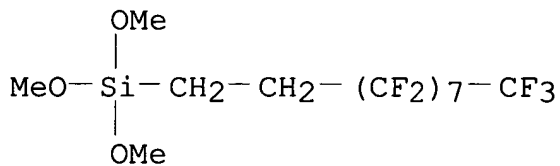
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 83048-65-1

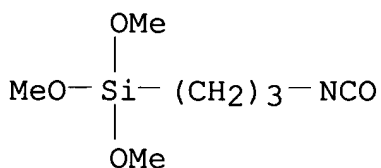
CMF C13 H13 F17 O3 Si



CM 4

CRN 15396-00-6

CMF C7 H15 N O4 Si

IT **142215-27-8P 477529-30-9P**(intermediate; coating **compns.** with good antifouling,
weather resistance, and adhesion)

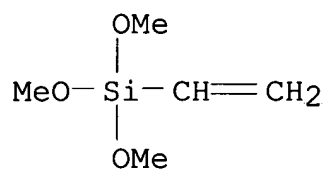
RN 142215-27-8 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with 1-(ethenyloxy)butane,
2-methyl-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

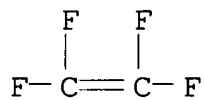
CMF C5 H12 O3 Si



CM 2

CRN 116-14-3

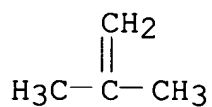
CMF C2 F4



CM 3

CRN 115-11-7

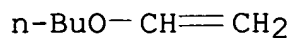
CMF C4 H8



CM 4

CRN 111-34-2

CMF C6 H12 O



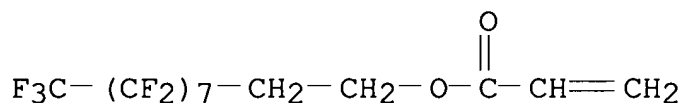
RN 477529-30-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate and octadecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 27905-45-9

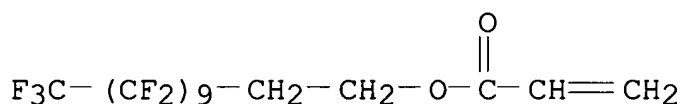
CMF C13 H7 F17 O2



CM 2

CRN 17741-60-5

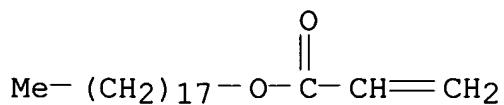
CMF C15 H7 F21 O2



CM 3

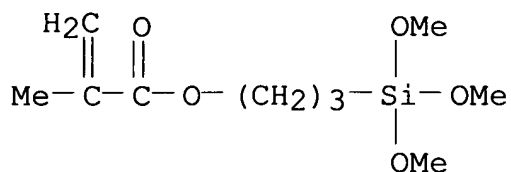
CRN 4813-57-4

CMF C21 H40 O2



CM 4

CRN 2530-85-0
CMF C10 H20 O5 Si



IC ICM C09D127-12
ICS C08G077-24; C08G077-442; C09D133-00; C09D175-04; C09D183-00;
C09D183-08; C09D183-10
CC 42-10 (**Coatings**, Inks, and Related Products)
IT Construction materials
(boards, flexible, **substrates**; coating compns. with
good antifouling, weather resistance, and adhesion)
IT **Glass substrates**
(coating compns. with good antifouling, weather resistance, and
adhesion)
IT Granite, uses
(**substrates**; coating compns. with good antifouling,
weather resistance, and adhesion)
IT **726389-99-7P 726390-05-2P 726390-11-0P**
727415-71-6P
(coating **compns.** with good antifouling, weather
resistance, and adhesion)
IT **142215-27-8P 477529-30-9P**
(intermediate; coating **compns.** with good antifouling,
weather resistance, and adhesion)
IT 37321-70-3, A 1050P
(**substrate**; coating compns. with good antifouling,
weather resistance, and adhesion)

L24 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:467968 HCAPLUS
DOCUMENT NUMBER: 141:25138
TITLE: Coating composition and coated **plastic**
lenses
INVENTOR(S): Kayanoki, Hisayuki
PATENT ASSIGNEE(S): Nippon Arc Co., Ltd., Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004048487	A1	20040610	WO 2003-JP15106	2003 1126

W: US

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,
HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

JP 2004175907	A2	20040624	JP 2002-343453	2002 1127
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PRIORITY APPLN. INFO.:

JP 2002-343453	A	2002 1127
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AB The present invention relates to a coating composition comprising (A)
a

fluoro-bearing silicon compound or a hydrolyzate thereof 0.05-7, (B) fine particles of an oxide of ≥ 1 metal selected from Si, Al, Sn, Sb, Ta, Ce, La, Fe, Zn, W, Zr, In, and Ti 5-65, (C) a specific silicon compound or a partial hydrolyzate thereof 10-80, and (D) a compound capable of reacting with an epoxy or silanol group 0.1-60%, where the percentage of the component A is based on the component C and the percentages of the components B, C and D are each based on the total mass of the components A, B, C and D. This composition can form on a **plastic** lens a dyeable high-hardness coat which can be uniformly dyed even after long-term storage in a color little different from the color which is to be attained by dyeing before the storage. Thus, 40% silica sol with average particle diameter 10 nm 319, γ -glycidoxypopyltrimethoxysilane 134, and KBM 7803 3 g were stirred, 1-methoxy-2-propanol 505, cis-hexahydrophthalic acid 30, ADK Stab LA 77 4, and Paintad 57 0.4 g were added therein, CR 39 a diethylene glycol bisallylcarbonate based **plastic glass substrate** was dipped therein, dried, and heated at 120° for 1 h to give a test piece with hardness 5, water contact angle 106°, and good adhesion initially and after dyed and good dyeability after long-term storage.

IT **698398-14-0P 698398-15-1P 698398-16-2P**
698398-17-3P 698398-18-4P

(coating compns. for **plastic**
lenses)

RN 698398-14-0 HCAPLUS

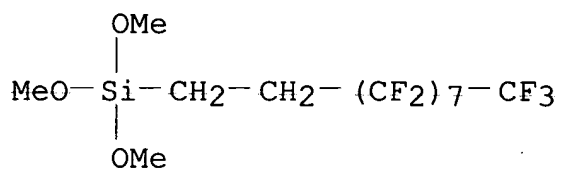
CN 1,2-Cyclohexanedicarboxylic acid, (1R,2S)-rel-, polymer with
(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-

heptadecafluorodecyl)trimethoxysilane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

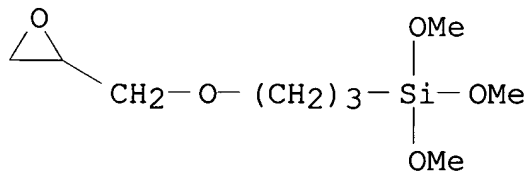
CMF C13 H13 F17 O3 Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si

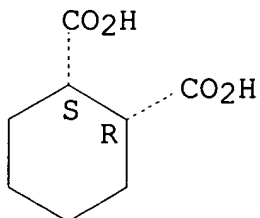


CM 3

CRN 610-09-3

CMF C8 H12 O4

Relative stereochemistry.



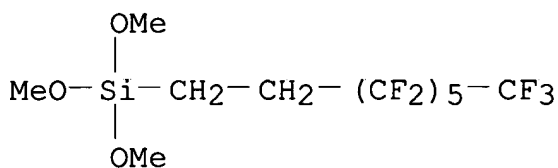
RN 698398-15-1 HCAPLUS

CN Silane, trimethoxymethyl-, polymer with trimethoxy[3-(oxiranylmethoxy)propyl]silane and trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 85857-16-5

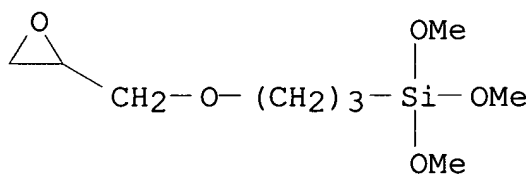
CMF C11 H13 F13 O3 Si



CM 2

CRN 2530-83-8

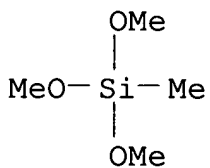
CMF C9 H20 O5 Si



CM 3

CRN 1185-55-3

CMF C4 H12 O3 Si



RN 698398-16-2 HCAPLUS

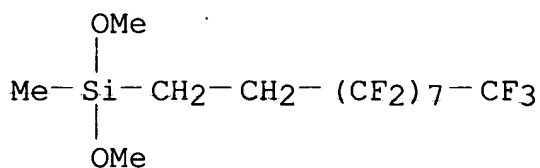
CN 2-Propenoic acid, (1-methyl-1,2-ethanediyl)bis[oxy(2-hydroxy-3,1-propanediyl)] ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,

10,10-heptafluorodecyl)dimethoxymethylsilane and
trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 83038-84-0

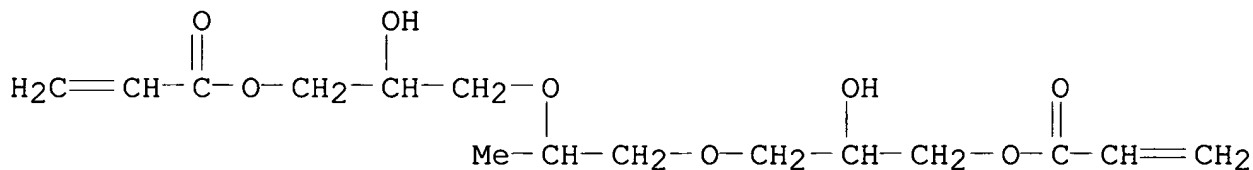
CMF C13 H13 F17 O2 Si



CM 2

CRN 72928-42-8

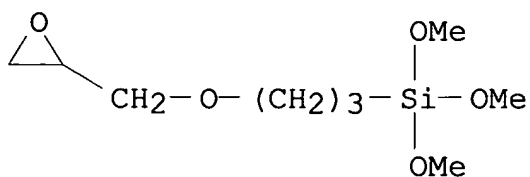
CMF C15 H24 O8



CM 3

CRN 2530-83-8

CMF C9 H20 O5 Si



RN 698398-17-3 HCAPLUS

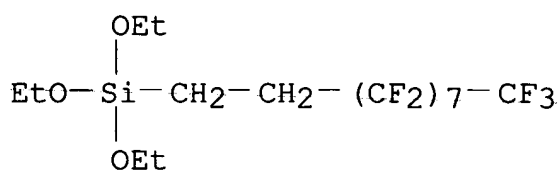
CN 2-Propenoic acid, 2-methyl-, 2-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]ethyl ester, polymer with triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-

heptadecafluorodecyl)silane and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 101947-16-4

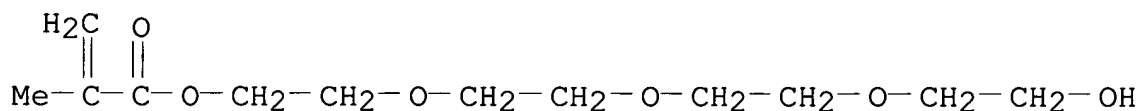
CMF C16 H19 F17 O3 Si



CM 2

CRN 21217-75-4

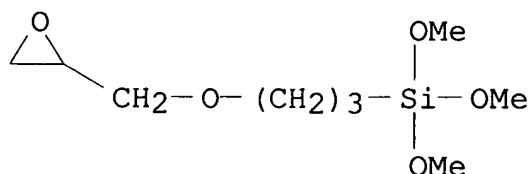
CMF C12 H22 O6



CM 3

CRN 2530-83-8

CMF C9 H20 O5 Si



RN 698398-18-4 HCAPLUS

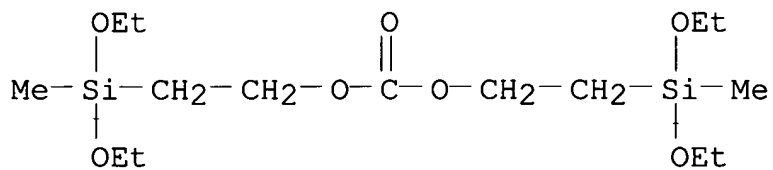
CN 2-Propenoic acid, 2-methyl-, 2-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]ethyl ester, polymer with bis[2-(diethoxymethylsilyl)ethyl] carbonate, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane and trimethoxy[3-

(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 226560-44-7

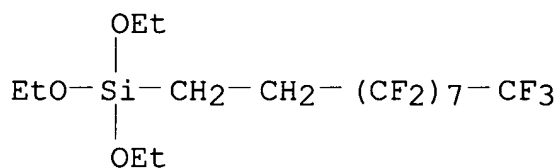
CMF C15 H34 O7 Si2



CM 2

CRN 101947-16-4

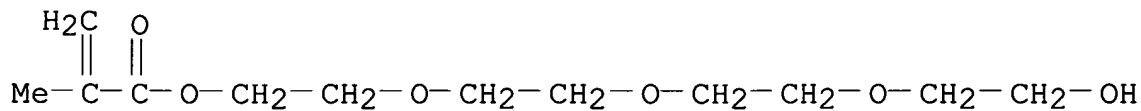
CMF C16 H19 F17 O3 Si



CM 3

CRN 21217-75-4

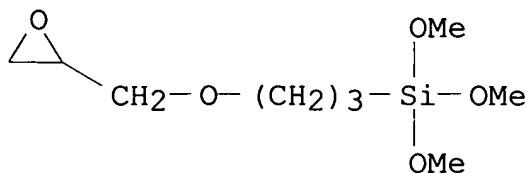
CMF C12 H22 O6



CM 4

CRN 2530-83-8

CMF C9 H20 O5 Si



- IC ICM C09D183-08
ICS C09D183-06; C09D183-14; G02B001-10
- CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 38, 63
- ST coating compn coated **plastic** lens; silica fluoro contg
epoxy silsesquioxane hard coating
- IT Silsesquioxanes
(acrylic-epoxy-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Epoxy resins, uses
(acrylic-silsesquioxane-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Coating materials
Eyeglass lenses
Primers (paints)
(coating compns. for **plastic** lenses)
- IT Oxides (inorganic), uses
(coating compns. for **plastic** lenses)
- IT Silsesquioxanes
(epoxy-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Polysiloxanes, uses
(epoxy-polycarbonate-, acrylic-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Polycarbonates, uses
(epoxy-polysiloxane-, acrylic-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Silsesquioxanes
(epoxy-polysiloxane-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Fluoropolymers, uses
(epoxy-polysiloxane-silsesquioxanes; coating compns. for **plastic** lenses)
- IT Acrylic polymers, uses
Polysiloxanes, uses
(epoxy-silsesquioxane-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Fluoropolymers, uses
(epoxy-silsesquioxane-; coating compns. for **plastic** lenses)
- IT Polysiloxanes, uses

- (fluorine-containing, epoxy-; coating compns. for **plastic** lenses)
- IT Epoxy resins, uses
(polycarbonate-polysiloxane-, acrylic-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Polyurethanes, uses
(polyester-, primers; coating compns. for **plastic** lenses)
- IT Fluoropolymers, uses
(polysiloxane-, epoxy-; coating compns. for **plastic** lenses)
- IT Epoxy resins, uses
(polysiloxane-silsesquioxane-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Coating materials
(scratch-resistant; coating compns. for **plastic** lenses)
- IT Epoxy resins, uses
(silsesquioxane-, fluorine-containing; coating compns. for **plastic** lenses)
- IT Polyurethanes, uses
(thio-, **substrates**; coating compns. for **plastic** lenses)
- IT **698398-14-0P 698398-15-1P 698398-16-2P 698398-17-3P 698398-18-4P**
(coating compns. for **plastic** lenses)
- IT 3779-63-3DP, 1,6-Hexamethylene diisocyanate trimer, diketone-blocked, polymers with polyester polyols
(coating compns. for **plastic** lenses)
- IT 1312-43-2, Indium oxide 1312-81-8, Lanthanum oxide 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1314-35-8, Tungsten oxide, uses 1327-33-9, Antimony oxide 1332-29-2, Tin oxide 1332-37-2, Iron oxide, uses 1344-28-1, Aluminum oxide, uses 7631-86-9, Silica, uses 13463-67-7, Titanium oxide, uses 20281-00-9, Cesium oxide 59763-75-6, Tantalum oxide
(coating compns. for **plastic** lenses)
- IT 121-91-5DP, Isophthalic acid, polymers with hexanediol and blocked hexamethylene diisocyanate trimers 629-11-8DP, 1,6-Hexanediol, polymers with isophthalic acid and blocked hexamethylene diisocyanate trimers
(primer; coating compns. for **plastic** lenses)
- IT 25656-90-0, CR 39 158885-88-2, MR 7
(**substrate**; coating compns. for **plastic** lenses)

REFERENCE COUNT:

8

THERE ARE 8 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:371021 HCAPLUS

DOCUMENT NUMBER: 140:376660

TITLE: Process and composition for coating of
substrates with hydrophobic and/or
oleophobic surfacesINVENTOR(S): Jonschker, Gerhard; Krakehl, Joachim; Zindel,
Oliver; Sievers, Heiko

PATENT ASSIGNEE(S): Nanogate Technologies GmbH, Germany

SOURCE: PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2004037936	A1	20040506	WO 2003-EP11911	2003 1027
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10250281	A1	20040513	DE 2002-10250281	2002 1028
PRIORITY APPLN. INFO.:				DE 2002-10250281 A
				2002 1028
AB The process for generation of an oleophobic and/or hydrophobic coating on a substrate by spraying on a substrate with a coating material containing $<10\% \geq 1$ silane in a liquid carrier with average droplet diameter $\leq 100 \mu\text{m}$ when leaving the spray nozzle is sprayed on. Thus, 0.1 parts sulfuric acid dissolved in 29.9 parts demineralized water was				

slowly added to a mixture of isopropanol 60, isopropoxyethanol 4, Dynasylan F 8261 (tetrahydroperfluorooctyltriethoxysilane) 2, octyltriethoxysilane 3 and dimethyldiethoxysilane 1 part, stirred for 30 min and spray coated on **glass substrate**, showing good hydrophobicity.

IT **159412-13-2P**, Heptadecafluorodecyltrimethoxysilane homopolymer **685530-14-7P 685530-15-8P**
(process and **composition** for coating of **substrates** with hydrophobic and/or oleophobic surfaces)

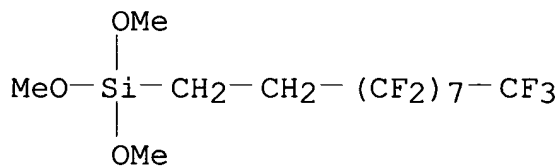
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



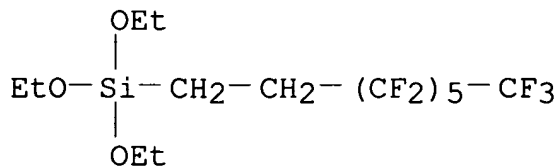
RN 685530-14-7 HCAPLUS

CN Silane, diethoxydimethyl-, polymer with triethoxyoctylsilane and triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

CM 1

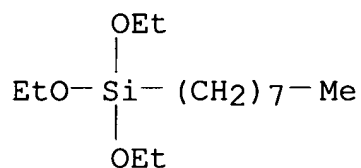
CRN 51851-37-7

CMF C14 H19 F13 O3 Si



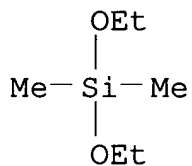
CM 2

CRN 2943-75-1
CMF C14 H32 O3 Si



CM 3

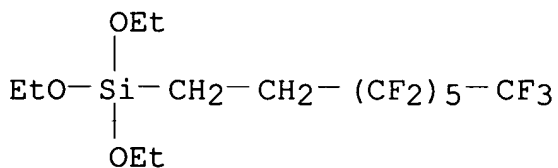
CRN 78-62-6
CMF C6 H16 O2 Si



RN 685530-15-8 HCAPLUS
CN Silane, dimethoxy-, polymer with triethoxyoctylsilane and triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

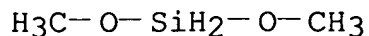
CM 1

CRN 51851-37-7
CMF C14 H19 F13 O3 Si



CM 2

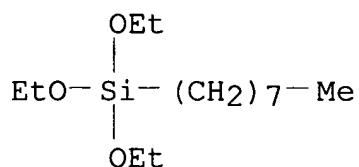
CRN 5314-52-3
CMF C2 H8 O2 Si



CM 3

CRN 2943-75-1

CMF C14 H32 O3 Si



IC ICM C09D183-04

ICS C09D183-08; C09D004-00

CC 42-2 (**Coatings**, Inks, and Related Products)

ST polysiloxane coating hydrophobic oleophobic **substrate**
surface

IT Silsesquioxanes

(fluorine-containing; process and composition for coating of
substrates with hydrophobic and/or oleophobic surfaces)

IT Silsesquioxanes

(polysiloxane-, fluorine-containing; process and composition for
coating of **substrates** with hydrophobic and/or oleophobic
surfaces)

IT Fluoropolymers, uses

(polysiloxane-silsesquioxane-; process and composition for coating
of **substrates** with hydrophobic and/or oleophobic
surfaces)

IT Coating materials

Glass substrates

(process and composition for coating of **substrates** with
hydrophobic and/or oleophobic surfaces)

IT China

(sanitary ware, **substrates**; process and composition for
coating of **substrates** with hydrophobic and/or
oleophobic surfaces)

IT Polysiloxanes, uses

(silsesquioxane-, fluorine-containing; process and composition for
coating of **substrates** with hydrophobic and/or
oleophobic surfaces)

IT Fluoropolymers, uses
 (silsesquioxane-; process and composition for coating of
substrates with hydrophobic and/or oleophobic surfaces)

IT Coating process
 (spray; process and composition for coating of **substrates**
 with hydrophobic and/or oleophobic surfaces)

IT **Ceramics**
 Tiles
 (**substrates**; process and composition for coating of
substrates with hydrophobic and/or oleophobic surfaces)

IT Metals, miscellaneous
 Minerals, miscellaneous
Plastics, miscellaneous
 (**substrates**; process and composition for coating of
substrates with hydrophobic and/or oleophobic surfaces)

IT **159412-13-2P**, Heptadecafluorodecyltrimethoxysilane
 homopolymer 161045-59-6P **685530-14-7P**
685530-15-8P
 (process and **composition** for coating of **substrates**
 with hydrophobic and/or oleophobic surfaces)

L24 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:805886 HCAPLUS
 DOCUMENT NUMBER: 139:308936
 TITLE: Compositions with low refractive index and
 antireflection films
 INVENTOR(S): Aoyama, Takahiro; Noda, Nobuhisa; Shimizu,
 Kenji; Akutagawa, Hironobu
 PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2003292805	A2	20031015	JP 2002-99201	2002 0401
PRIORITY APPLN. INFO.:			JP 2002-99201	2002 0401

AB Title compns. comprise composite fine particles of inorg. compds.
 and organic compds. with mol. weight ≥ 1000 . Thus, a

polymerizable polysiloxane obtained from 144.5 g tetramethoxysilane and 23.6 g γ -methacryloyloxypropyltrimethoxysilane 12, tert-Bu methacrylate 19, Bu acrylate 94, 2-hydroxyethyl methacrylate 67, and Light Ester FM 108 20 parts were polymerized to give an organic copolymer with Mw 37,000

and Mn 17,000, 10 g of which was mixed with 30 g tetramethoxysilane, and 5 g 25% aqueous ammonia added therein and reacted to give organic polymer-inorg. fine particle composite dispersion with average particle diameter 29 nm, which was applied on

a

glass substrate and dried at room temperature for 15 min and 80° for 30 min to give a 820 nm-thick antireflective coating film with good transparency, refractive index 1.33 at 550 nm.

IT **611240-89-2P**

(composite with silicate, optionally blend with acrylic polymer; preparation of **compns.** with low refractive index for antireflection films)

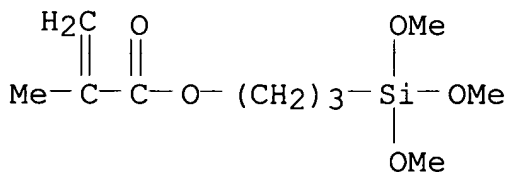
RN 611240-89-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with butyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, silicic acid (H₄SiO₄) tetramethyl ester and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

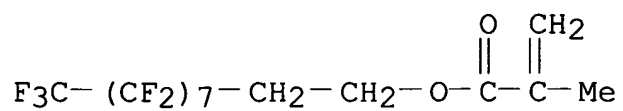
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

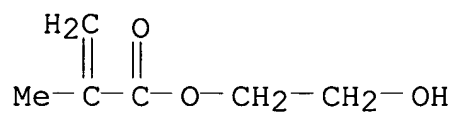
CMF C14 H9 F17 O2



CM 3

CRN 868-77-9

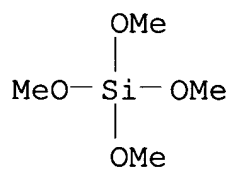
CMF C6 H10 O3



CM 4

CRN 681-84-5

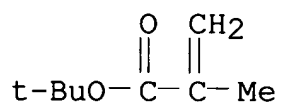
CMF C4 H12 O4 Si



CM 5

CRN 585-07-9

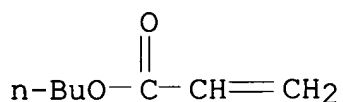
CMF C8 H14 O2



CM 6

CRN 141-32-2

CMF C7 H12 O2

IT **611240-90-5P 611240-92-7P**(composite with silicate; preparation of **compns.** with low refractive index for antireflection films)

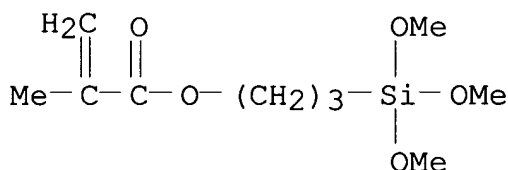
RN 611240-90-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with butyl 2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, silicic acid (H₄SiO₄) tetramethyl ester and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

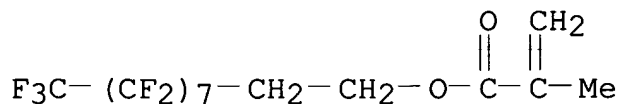
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

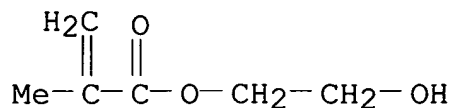
CMF C14 H9 F17 O2



CM 3

CRN 868-77-9

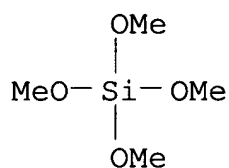
CMF C6 H10 O3



CM 4

CRN 681-84-5

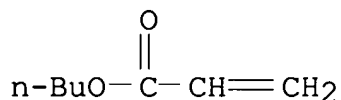
CMF C4 H12 O4 Si



CM 5

CRN 141-32-2

CMF C7 H12 O2



RN 611240-92-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with butyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, silicic acid (H₄SiO₄) tetramethyl ester, Sumidur N 3300 and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 141911-55-9

CMF Unspecified

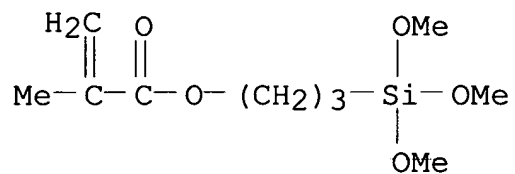
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 2530-85-0

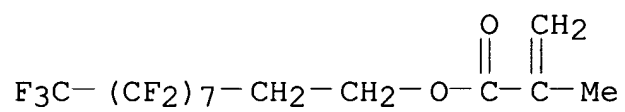
CMF C10 H20 O5 Si



CM 3

CRN 1996-88-9

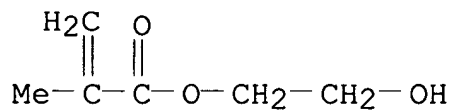
CMF C14 H9 F17 O2



CM 4

CRN 868-77-9

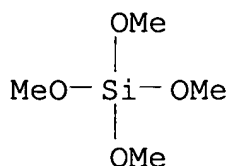
CMF C6 H10 O3



CM 5

CRN 681-84-5

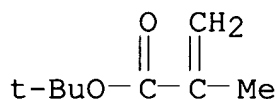
CMF C4 H12 O4 Si



CM 6

CRN 585-07-9

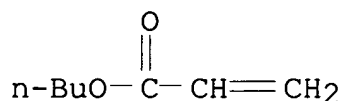
CMF C8 H14 O2



CM 7

CRN 141-32-2

CMF C7 H12 O2



IC ICM C08L101-12

ICS B32B007-02; B32B009-00; C08K003-00; G02B001-11; G02B005-02;
G02F001-1335CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 73IT **611240-89-2P**(composite with silicate, optionally blend with acrylic
polymer; preparation of **compns.** with low refractive index
for antireflection films)IT 175649-21-5P **611240-90-5P** 611240-91-6P**611240-92-7P**(composite with silicate; preparation of **compns.** with low
refractive index for antireflection films)

DOCUMENT NUMBER: 139:280064
TITLE: Glass containers requiring low firing temperature and having good scratch and alkali resistance and their manufacture
INVENTOR(S): Hozuki, Eiji
PATENT ASSIGNEE(S): Toyo Glass Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2003286047	A2	20031007	JP 2002-92525	2002 0328
PRIORITY APPLN. INFO.:				2002 0328

AB The containers, such as cups, jugs, etc., are coated with coatings containing Zr compds. 0.5-7.0, stabilizers (e.g., compds. of Y, Mg, Ca, Sc, Ce, and/or of Sr) 0.05-1.1, and diluents (e.g., aliphatic alcs.) 1.0-60.0% on inner and/or outer surface. The coatings may contain water repellents.

IT **159412-13-2P**
(water repellents, **coatings**; manufacture of **glass** containers requiring low firing temperature and having good scratch and alkali resistance)

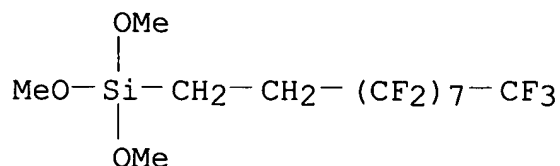
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IC ICM C03C017-25
 ICS B65D025-34; C03C017-30
 CC 57-1 (Ceramics)
 IT **159412-13-2P** 161045-59-6P
 (water repellents, **coatings**; manufacture of **glass**
 containers requiring low firing temperature and having good scratch
 and alkali resistance)

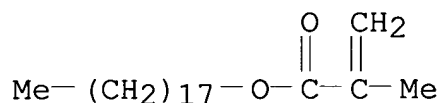
L24 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:717778 HCAPLUS
 DOCUMENT NUMBER: 139:246947
 TITLE: Fluorochemical composition comprising a
 fluorochemical oligomeric silane for rendering
 substrates oil and water repellent
 INVENTOR(S): Dams, Rudolf J.
 PATENT ASSIGNEE(S): Belg.
 SOURCE: U.S. Pat. Appl. Publ., 14 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 2003171484	A1	20030911	US 2002-53396	2002 0117

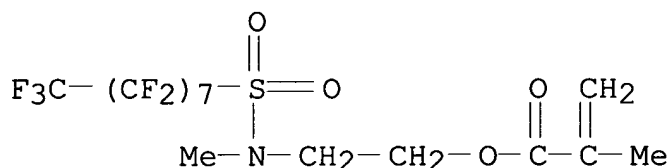
PRIORITY APPLN. INFO.: US 2002-53396
 2002
 0117

AB Acrylic oligomers, useful as oil- and water-repellent coatings
 with good abrasion resistance for plastics, glass, and ceramics,
 are prepared from F-containing monomers and, optionally, Si-containing
 monomers in the presence of Si-containing mercapto chain-transfer
 agents or in the presence of mercapto chain-transfer agents that
 react with Si-containing isocyanates. A typical oligomer was
 manufactured

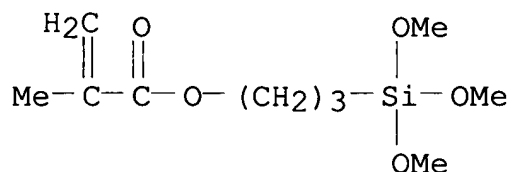
by radical polymerization of 32.5 g
 2-(N-methylperfluorooctanesulfonamido
)ethyl methacrylate with 17.5 g octadecyl methacrylate in the
 presence of 5.1 g Al60 (3-mercaptopropyltrimethoxysilane).
 IT **443661-39-0DP**, reaction products with mercapto silanes
 (fluoroacrylic oligomer silanes for oil-, water-, and
 abrasion-resistant **coatings** for **plastics**,
ceramics, and glass)
 RN 443661-39-0 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[[heptadecafluorooctyl)sulfonyl]me
 thylamino]ethyl ester, polymer with octadecyl 2-methyl-2-
 propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate
 (9CI) (CA INDEX NAME)
 CM 1
 CRN 32360-05-7
 CMF C22 H42 O2



CM 2
 CRN 14650-24-9
 CMF C15 H12 F17 N O4 S



CM 3
 CRN 2530-85-0
 CMF C10 H20 O5 Si



IC ICM C08K003-00

NCL 524544000

CC 42-7 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 57

IT 60-24-2DP, 2-Mercaptoethanol, reaction products with fluoroacrylic oligomers and isocyanatopropyltrimethoxysilane 79-10-7DP, Acrylic acid, esters with fluoroalcs., polymers, reaction products with mercapto alcs. and isocyanatopropyltrimethoxysilane 96-27-5DP, 3-Mercapto-1,2-propanediol, reaction products with fluoroacrylic oligomers and isocyanatopropyltrimethoxysilane 15396-00-6DP, 3-Isocyanatopropyltrimethoxysilane, reaction products with mercapto alc.-fluoroacrylic oligomer adducts 27119-23-9DP, reaction products with mercapto silanes 29403-93-8DP, reaction products with mercapto alcs. and isocyanatopropyltrimethoxysilane 72247-41-7DP, 2-(N-Methylperfluorooctanesulfonamido)ethyl methacrylate-octadecyl methacrylate copolymer, reaction products with mercapto silanes 108388-39-2DP, reaction products with mercapto alcs. and isocyanatopropyltrimethoxysilane 149545-17-5DP, reaction products with mercapto silanes **443661-39-0DP**, reaction products with mercapto silanes 595581-76-3DP, reaction products with mercapto silanes (fluoroacrylic oligomer silanes for oil-, water-, and abrasion-resistant **coatings** for **plastics**, **ceramics**, and glass)

L24 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:628150 HCAPLUS

DOCUMENT NUMBER: 139:151199

TITLE: Hydrophilic thin films with good adhesion and their manufacture

INVENTOR(S): Hozumi, Atsushi

PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science and Technology, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003226978	A2	20030815	JP 2002-28629	2002 0205
PRIORITY APPLN. INFO.:			JP 2002-28629	2002 0205

AB The thin films, useful for antifogging mirrors, lenses, etc., are manufactured by (A) depositing ceramic precursors selected from organic silanes and organometallic compds. on a substrate and (B) removing the organic components from the deposited layers by photooxidn. and/or 3D crosslinking to prepare ceramic layers. Thus, vapor-depositing (EtO)₄Si on an acrylic resin substrate (Delaglas A) and irradiating vacuum UV gave a film showing low contact angle to H₂O for at least 2 wk.

IT **159412-13-2P**, KBM 7803 polymer
(topcoat; hydrophilic thin **ceramic coatings**
with good adhesion)

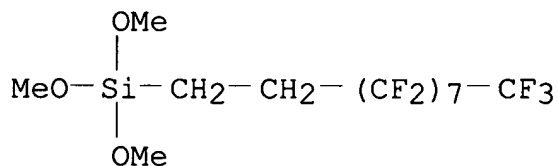
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IC ICM C23C016-48

ICS B32B009-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 75

IT **159412-13-2P**, KBM 7803 polymer 161045-59-6P,
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyltrimethoxysilane homopolymer, ladder SRU

(topcoat; hydrophilic thin **ceramic coatings**
with good adhesion)

L24 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:376921 HCAPLUS

DOCUMENT NUMBER: 138:386919

TITLE: Coating composition containing
fluoro-containing polyether silane
polycondensate with durable repellency to
water, oil and stain

INVENTOR(S): Moore, George G. i.; Dams, Rudolf J.; Fieuws,
Franceska M.; Piessens, Guido P.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2003040209	A1	20030515	WO 2002-US27331	2002 0827
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003124361	A1	20030703	US 2001-10144	2001 1108
US 6649272	B2	20031118		
EP 1444289	A1	20040811	EP 2002-761524	2002 0827
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			

US 2004092675

A1

20040513

US 2003-701748

2003

1105

PRIORITY APPLN. INFO.:

US 2001-10144

A

2001

1108

WO 2002-US27331

W

2002

0827

AB The composition comprises a condensation product of ≥ 1 fluoro-containing polyether silane compound having a polyfluoro-polyether segment and ≥ 2 two Si(Y)_{3-x}(R₁)_x silane groups/mol, (R₁ = alkyl; Y = hydrolyzable group; x = 0-1) with ≥ 1 nonfluorinated compds. having ≥ 2 hydrolyzable groups/mol. Thus, white wall tile was spray coated with a composition comprising a reaction product of Fomblin Z-DEAL [CH₃OC(O)CF₂O(CF₂O)₉₋₁₁(CF₂CF₂O)₉₋₁₁CF₂C(O)OCH₃] with 3-aminopropyltrimethoxysilane and tetraethoxysilane in a ratio of 1/1 and cured, showing contact angle to water 108° initially, and 90° after abrasion, and contact angle to n-hexadecane 65° initially, and 52° after abrasion, resp.

IT **524960-91-6P**

(coating **composition** containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)

RN 524960-91-6 HCAPLUS

CN Silane, (3-isocyanatopropyl)trimethoxy-, polymer with α, α' -(1,1,2,2,3,3,4,4-octafluoro-1,4-butanediyl)bis[ω -(1,2,2,2-tetrafluoro-1-(hydroxymethyl)ethoxy]poly[oxy(trifluoro(trifluoromethyl)-1,2-ethanediyl)]] (9CI) (CA INDEX NAME)

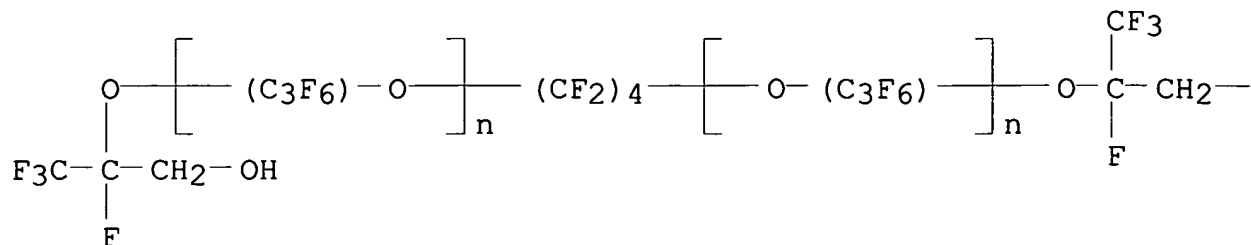
CM 1

CRN 410084-16-1

CMF (C3 F6 O)_n (C3 F6 O)_n C10 H6 F16 O4

CCI IDS, PMS

PAGE 1-A



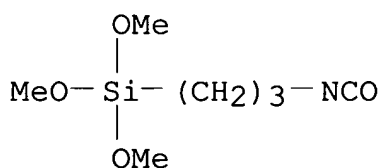
PAGE 1-B

— OH

CM 2

CRN 15396-00-6

CMF C7 H15 N O4 Si



IT 524931-44-0P 524931-45-1P 524960-89-2P

(coating **composition** containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)

RN 524931-44-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3-isocyanatopropyl)trimethoxysilane and α, α' -(1,1,2,2,3,3,4,4-octafluoro-1,4-butanediyl)bis[ω -[1,2,2,2-tetrafluoro-1-(hydroxymethyl)ethoxy]poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]]] (9CI) (CA INDEX NAME)

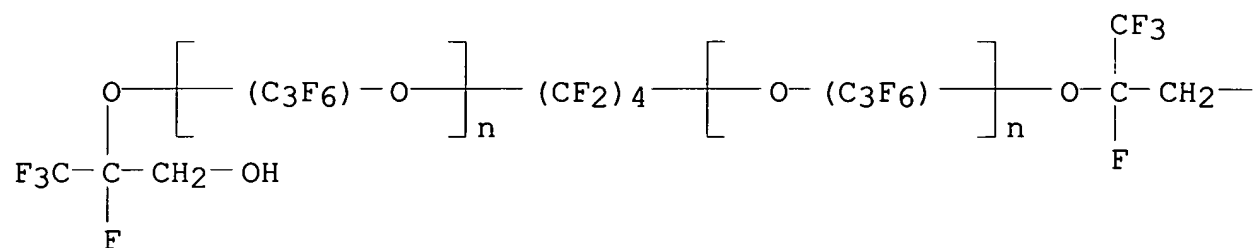
CM 1

CRN 410084-16-1

CMF (C3 F6 O)_n (C3 F6 O)_n C10 H6 F16 O4

CCI IDS, PMS

PAGE 1-A



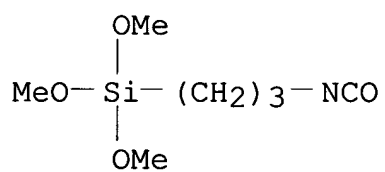
PAGE 1-B

— OH

CM 2

CRN 15396-00-6

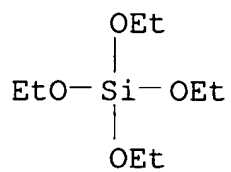
CMF C7 H15 N O4 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 524931-45-1 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with
 (3-isocyanatopropyl)trimethoxysilane, α,α' -
 (1,1,2,2,3,3,4,4-octafluoro-1,4-butanediyl)bis[ω -[1,2,2,2-
 tetrafluoro-1-(hydroxymethyl)ethoxy]poly[oxy[trifluoro(trifluorome-
 thyl)-1,2-ethanediyl]]] and trimethoxy[3-
 (oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

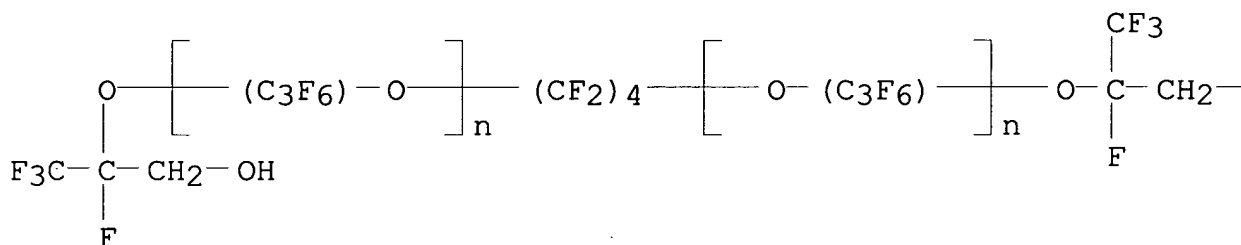
CM 1

CRN 410084-16-1

CMF (C₃ F₆ O)_n (C₃ F₆ O)_n C₁₀ H₆ F₁₆ O₄

CCI IDS, PMS

PAGE 1-A

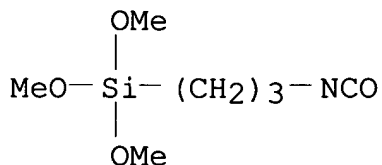


PAGE 1-B

— OH

CM 2

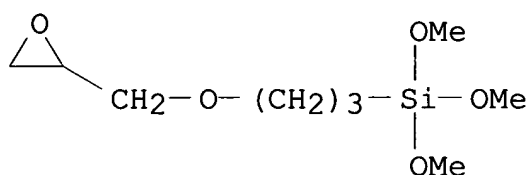
CRN 15396-00-6

CMF C₇ H₁₅ N O₄ Si

CM 3

CRN 2530-83-8

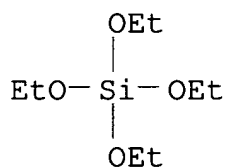
CMF C9 H20 O5 Si



CM 4

CRN 78-10-4

CMF C8 H20 O4 Si



RN 524960-89-2 HCAPLUS

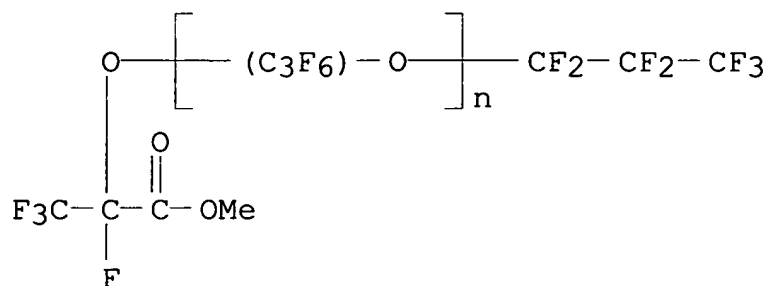
CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with
 α -(heptafluoropropyl)- ω -[1,2,2,2-tetrafluoro-1-(methoxycarbonyl)ethoxy]poly[oxy(trifluoro(trifluoromethyl)-1,2-ethanediyl)] and 3-(trimethoxysilyl)-N-[3-(trimethoxysilyl)propyl]-1-propanamine (9CI) (CA INDEX NAME)

CM 1

CRN 146185-22-0

CMF (C3 F6 O)_n C7 H3 F11 O3

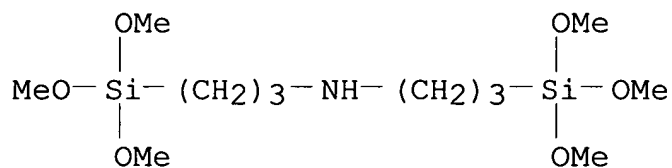
CCI IDS, PMS



CM 2

CRN 82985-35-1

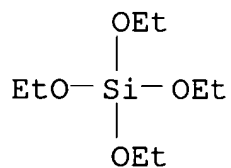
CMF C12 H31 N O6 Si2



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C08G065-00

ICS C08G065-336; C09D171-02; C03C017-30; C08J007-04

CC 42-10 (**Coatings**, Inks, and Related Products)

IT Tiles

(**ceramic, substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)

IT **Glass substrates**

(coating composition containing fluoro-containing polyether silane

- polycondensate with durable repellency to water, oil and stain)
- IT Epoxy resins, miscellaneous
(powder coating, **substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT **Ceramics**
Enamels (vitreous)
Linoleum
Wood
(**substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT Metals, miscellaneous
Plastics, miscellaneous
(**substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT 12597-69-2, Steel, miscellaneous
(chromated, **substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT 477564-54-8P **524960-91-6P**
(coating **composition** containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT 524931-38-2P 524931-39-3P 524931-40-6P 524931-41-7P
524931-42-8P 524931-43-9P **524931-44-0P**
524931-45-1P 524960-89-2P
(coating **composition** containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)
- IT 9011-14-7, PMMA
(**substrates**; coating composition containing fluoro-containing polyether silane polycondensate with durable repellency to water, oil and stain)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:60853 HCAPLUS
DOCUMENT NUMBER: 139:198714
TITLE: Organically modified ceramics for coating
textile materials
AUTHOR(S): Schollmeyer, Eckhard; Textor, Torsten;
Bahners, Thomas
CORPORATE SOURCE: German Textile Research Centre North-West,
Krefeld, 47798, Germany
SOURCE: Magic World of Textiles, Book of Proceedings
of the International Textile, Clothing &

Design Conference, 1st, Dubrovnik, Croatia,
Oct. 6-9, 2002 (2002), 318-322. Organising
Committee ITC&DC 2002: Zagreb, Croatia.
CODEN: 69DLÝ7; ISBN: 953-96408-8-1

DOCUMENT TYPE:

Conference

LANGUAGE:

English

AB Fabrics made of polyester, polyamide and glass fiber were coated with differently modified inorg.-organic hybrid polymers based on organically modified trialkoxy silanes. One focus was to affect surface specific properties especially hydrophobic, oleophobic and hydrophilic properties resp. The barrier properties of such coating were tested in aggressive atmospheres and assessed by the remaining tensile strength. The modification of the inorg.-organic hybrid polymers with nanosized metal oxide particles leads to improvements in the scratch resistance and may increase the wear resistance of coated glass fiber fabrics. By filling sol-gel-networks with nanosized ZnO particles transparent coatings with high UV-absorption can be created. The networks can also act as host for dyestuffs, by appropriate embedding even photochromic dyestuffs can be incorporated into these coatings that keep its ability to change its color when irradiated with sunlight.

IT **150600-19-4P**, Tridecafluoro-1,1,2,2-tetrahydrooctyltriethoxysilane homopolymer
(organically modified **ceramics** for **coating**
textile materials)

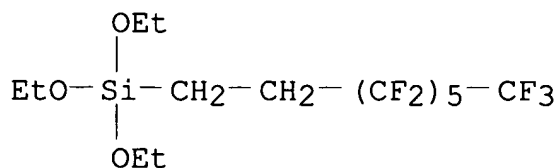
RN 150600-19-4 HCAPLUS

CN Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 51851-37-7

CMF C14 H19 F13 O3 Si



CC 40-5 (Textiles and Fibers)

Section cross-reference(s): 42, 57

IT 26355-29-3P, Propyltrimethoxysilane homopolymer

150600-19-4P, Tridecafluoro-1,1,2,2-tetrahydrooctyltriethoxysilane homopolymer 155968-09-5P,
Propyltrimethoxysilane homopolymer, ladder sru 161565-76-0P

(organically modified **ceramics** for **coating**
textile materials)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:22885 HCAPLUS
DOCUMENT NUMBER: 138:91505
TITLE: Antisoiling treatment composition and method
for transparent **substrates**
INVENTOR(S): Juhue, Didier; Lina, Marie-Jose; Gayon,
Anne-Claire; Corpart, Jean-Marc
PATENT ASSIGNEE(S): ATOFINA, Fr.
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003002572	A1	20030109	WO 2002-FR2167	2002 0621
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
FR 2826654	A1	20030103	FR 2001-8460	2001 0627
EP 1436302	A1	20040714	EP 2002-755082	2002 0621
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004530776	T2	20041007	JP 2003-508953	2002 0621
US 2004176600	A1	20040909	US 2003-477986	

			2003
			1112
PRIORITY APPLN. INFO.:	FR 2001-8460	A	2001
			0627
	WO 2002-FR2167	W	2002
			0621

OTHER SOURCE(S): MARPAT 138:91505

AB The invention relates to a composition comprising RfBROZ [Rf = C1-20 perfluoroalkyl, B = divalent group containing 1-3 O, S, and(or) N, Ro = 1-100 oxyalkylene groups connected to B by a C atom, Z = H, B having a OH group, or C1-6 alkyl] and Y(CH₂)_mSiRpA₃-p (m = 0-10, R = C1-6 alkyl, p = 0-2, A = halo or C1-6 alkoxy, Y = NCO, epoxy, carboxylic acid, or OH, Y may be SiRpA₃-p when m ≠ 0 and A when m = 0) and(or) RfBROQ(CH₂)_mSiRpA₃-p (Rf, B, Ro, Rp, A, m, p = same as above, Q = carbamate, ester, alkoxyasilane, or ether group). The invention is suitable for treating surfaces, in particular, transparent **substrates**. A typical treatment solution was manufactured by heating a solution containing 20 parts

Forfac 1110

[C₆F₁₃C₂H₄O(CH₂CH₂O)_nH (n = average 11)], 42 g EtOAc, and 0.2 parts dibutyltin dilaurate to 77° under N, adding 7.9 parts (EtO)₃Si(CH₂)₃NCO, and continuing the heating for 3 h.

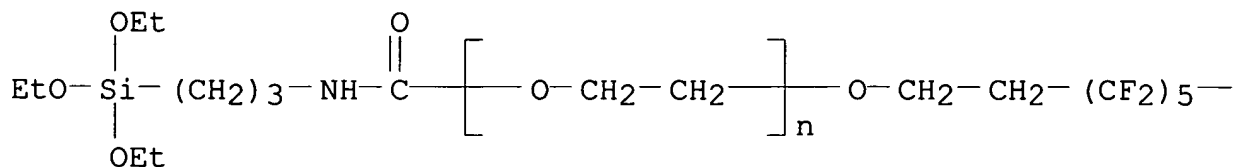
IT **482587-90-6P**

(antisoiling treatment **composition** containing alkoxyasilanes and fluoro polyoxyalkylenes and(or) their reaction products for transparent **substrates**)

RN 482587-90-6 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[[[2-(triethoxysilyl)propyl]amino]carbonyl]-ω-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CF₃

- IC C07F007-02; C07C043-12; B05D003-00; B05D005-08
- CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 38, 57
- ST antisoiling treatment transparent **substrate** alkoxyethyl
fluoro polyoxyalkylene ether
- IT **Glass substrates**
Transparent materials
(antisoiling treatment composition containing alkoxyethyl and
fluoro polyoxyalkylenes and(or) their reaction products for
transparent **substrates**)
- IT Coating materials
(antisoiling; antisoiling treatment composition containing
alkoxyethyl and fluoro polyoxyalkylenes and(or) their reaction products for
transparent **substrates**)
- IT Polyoxyalkylenes, uses
(fluorine-containing, ethers; antisoiling treatment composition
containing alkoxyethyl and fluoro polyoxyalkylenes and(or) their
reaction products for transparent **substrates**)
- IT Fluoropolymers, uses
(polyoxyalkylene-, ethers; antisoiling treatment composition
containing alkoxyethyl and fluoro polyoxyalkylenes and(or) their
reaction products for transparent **substrates**)
- IT Polycarbonates, miscellaneous
(**substrate**; antisoiling treatment composition containing
alkoxyethyl and fluoro polyoxyalkylenes and(or) their
reaction products for transparent **substrates**)
- IT 2602-34-8, 3-Glycidyloxypropyltriethoxysilane
(Dynasylan GLYEO; antisoiling treatment composition containing
alkoxyethyl and fluoro polyoxyalkylenes and(or) their
reaction products for transparent **substrates**)
- IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction
products with perfluoroalkyloxiranes and triethoxysilylpropyl
isocyanate 24801-88-5DP, 3-(Triethoxysilyl)propyl isocyanate,
reaction products with polyethylene glycol Me ether
perfluorohydroxyalkyl ether 96353-69-4DP, Unidyne DS 401,
reaction products with triethoxysilylpropyl isocyanate

482587-90-6P

(antisoiling treatment **composition** containing alkoxyasilanes and fluoro polyoxyalkylenes and(or) their reaction products for transparent **substrates**)

IT 78-10-4, Tetraethoxysilane 10217-34-2, Coatosil 1770
52550-44-4, Forafac 1110

(antisoiling treatment composition containing alkoxyasilanes and fluoro polyoxyalkylenes and(or) their reaction products for transparent **substrates**)

IT 9011-14-7, PMMA
(**substrate**; antisoiling treatment composition containing alkoxyasilanes and fluoro polyoxyalkylenes and(or) their reaction products for transparent **substrates**)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:877239 HCAPLUS

DOCUMENT NUMBER: 137:339167

TITLE: Surface-treating compositions for enhancing
water and oil resistance on **substrate**
surfaces

INVENTOR(S): Liu, Biqian; Song, Yanlin; Jiang, Lei

PATENT ASSIGNEE(S): Inst. of Chemistry, Chinese Academy of
Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9
pp.
CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CN 1315483	A	20011003	CN 2000-103573	2000 0329

PRIORITY APPLN. INFO.: CN 2000-103573

2000
0329

AB The compns. can be used for surface treatment of **glass**,
ceramics, metal, paper products, **plastics**, fiber
or textiles, also as drag-reduction agent for inner surfaces of oil

and water convey pipes, and for outer surfaces of torpedoes, ships and submarines, and comprise: (A) 40-80 parts a F-containing polysiloxane represented by $(C_nF_{2n+1}X)_2N[CH_2CH_2N(C_nF_{2n+1}X)]_yCH_2CH_2Si(OR)_3$ (where $y=0-2$, $n=2-10$, $R=CH_3$ or C_2H_5 , $X=CH_2CH_2$ or $SO_2NR_1CH_2CH_2$, $R_1=H$ or C_1-4 alkyl), (B) 4-42 parts a silicate $(CH_3)_mSi(OR_4)_4-m$ (where $R_4=CH_3$ or C_2H_5 , $m=0-2$), (C) 100-500 parts perhalogenoethane, 0-2 parts H_2O and 0-2 parts concentrated sulfuric acid. An example comprises: 80 g $(C_8F_{17}CH_2CH_2)_2NCH_2CH_2CH_2CH_2Si(OEt)_3$, 4 g $Si(OEt)_4$, 100 g $CF_2ClCFCl_2$, 2 g water and 0.5 g concentrated H_2SO_4 and used for coating on **glass** surface.

IT **474013-27-9P 474013-30-4P 474013-31-5P**
474013-33-7P 474013-36-0P 474013-39-3P
474013-43-9P

(in surface treating **compns.** for enhancing water and oil resistance on **substrate** surfaces)

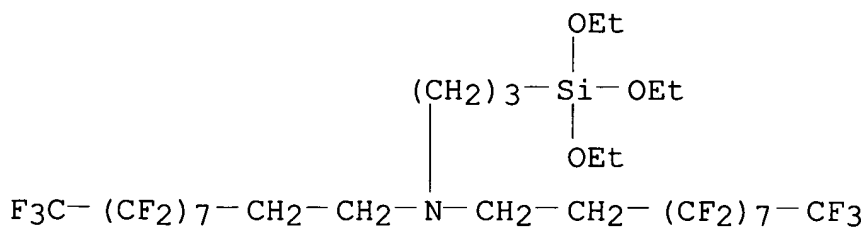
RN 474013-27-9 HCAPLUS

CN Silicic acid (H_4SiO_4), tetraethyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-N-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-N-[3-(triethoxysilyl)propyl]-1-decanamine (9CI) (CA INDEX NAME)

CM 1

CRN 474013-26-8

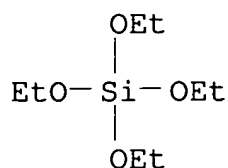
CMF C29 H29 F34 N O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



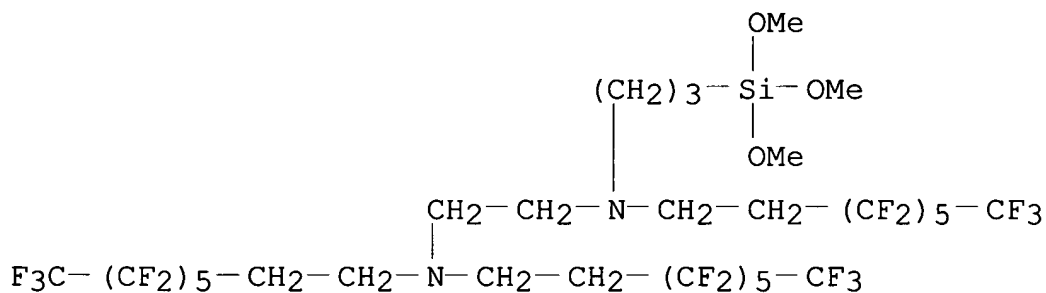
RN 474013-30-4 HCAPLUS

CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with
N,N,N'-tris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-N'-[3-
(trimethoxysilyl)propyl]-1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 474013-29-1

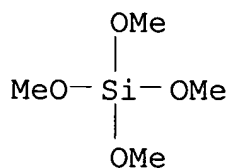
CMF C32 H31 F39 N2 O3 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



RN 474013-31-5 HCAPLUS

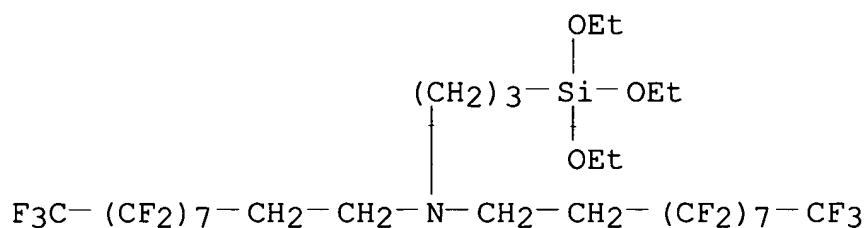
CN 1-Decanamine, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-
N-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-N-[3-
(triethoxysilyl)propyl]-, polymer with triethoxymethylsilane (9CI)

(CA INDEX NAME)

CM 1

CRN 474013-26-8

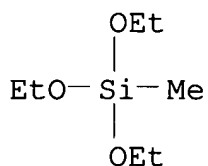
CMF C29 H29 F34 N O3 Si



CM 2

CRN 2031-67-6

CMF C7 H18 O3 Si



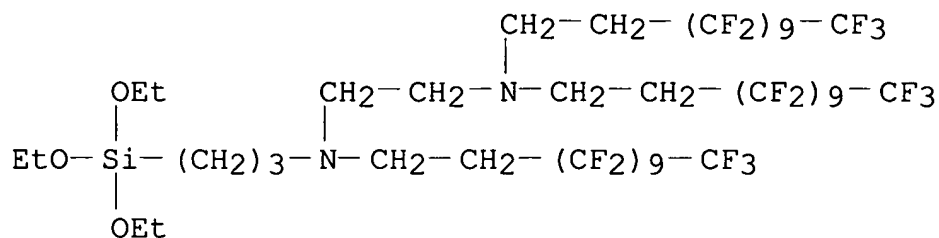
RN 474013-33-7 HCAPLUS

CN 1,2-Ethanediamine, N,N,N'-tris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuorododecyl)-N'-[3-(triethoxysilyl)propyl]-, polymer with dimethoxydimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 474013-32-6

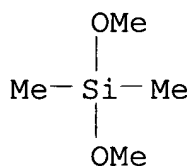
CMF C47 H37 F63 N2 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



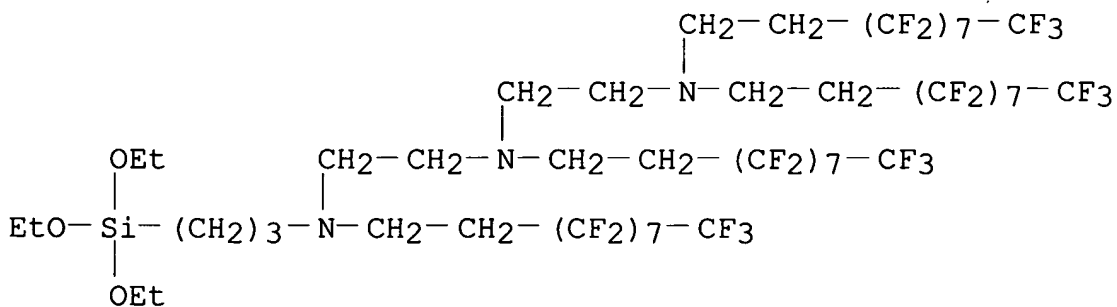
RN 474013-36-0 HCAPLUS

CN 1,2-Ethanediamine, N,N,N'-tris(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-N'-[2-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)[3-(triethoxysilyl)propyl]amino]ethyl]-, polymer with diethoxydimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 474013-35-9

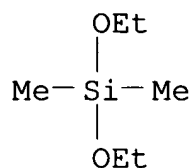
CMF C53 H45 F68 N3 O3 Si



CM 2

CRN 78-62-6

CMF C6 H16 O2 Si



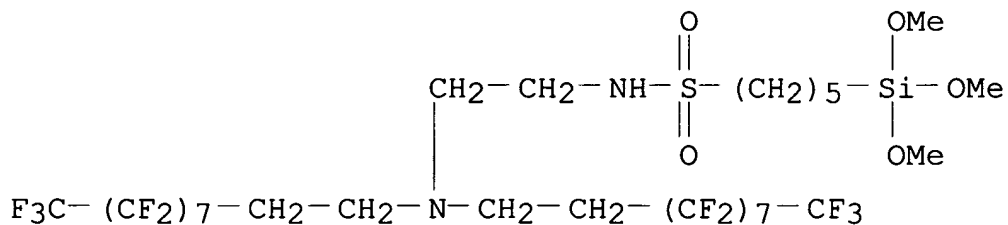
RN 474013-39-3 HCAPLUS

CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with
 N-[2-[bis(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
 heptadecafluorodecyl)amino]ethyl]-5-(trimethoxysilyl)-1-
 pentanesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 474013-38-2

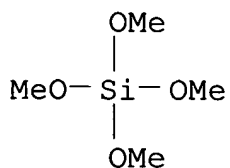
CMF C30 H32 F34 N2 O5 S Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si

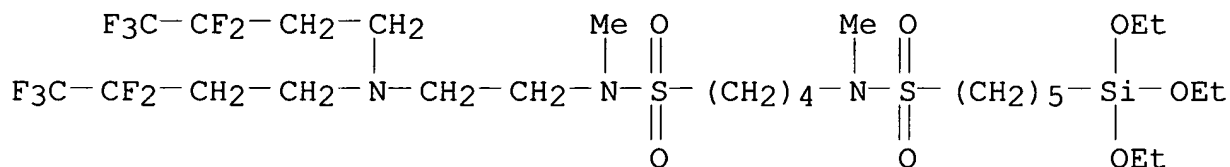


RN 474013-43-9 HCAPLUS
 CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with
 N-[2-[bis(3,3,4,4,4-pentafluorobutyl)amino]ethyl]-4,4-diethoxy-
 N,11-dimethyl-3-oxa-10-thia-11-aza-4-silapentadecane-15-
 sulfonamide 10,10-dioxide (9CI) (CA INDEX NAME)

CM 1

CRN 474013-42-8

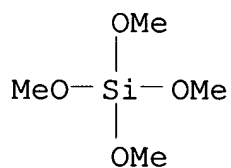
CMF C27 H51 F10 N3 O7 S2 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



IC ICM C09K003-18

CC 42-13 (**Coatings**, Inks, and Related Products)

IT Silsesquioxanes

(fluorine-containing; in surface treating compns. for enhancing
 water and oil resistance on **substrate** surfaces)

IT Coating materials

(oil- and water-resistant; silsesquioxane-based compns. for
 enhancing water and oil resistance on **substrate**
 surfaces)

IT Silsesquioxanes

(silicate-, fluorine-containing; in surface treating compns. for
 enhancing water and oil resistance on **substrate**
 surfaces)

IT Fluoropolymers, uses

(silicate-silsesquioxane-; in surface treating compns. for

enhancing water and oil resistance on **substrate** surfaces)

IT Fluoropolymers, uses
(silsesquioxane-; in surface treating compns. for enhancing water and oil resistance on **substrate** surfaces)

IT **Ceramics**

Paper

Textiles

(surface treatment using silsesquioxane-based compns. for enhancing water and oil resistance)

IT Fibers

Glass, miscellaneous

Metals, miscellaneous

Plastics, miscellaneous

(surface treatment using silsesquioxane-based compns. for enhancing water and oil resistance)

IT **474013-27-9P 474013-30-4P 474013-31-5P**

474013-33-7P 474013-36-0P 474013-39-3P

474013-43-9P

(in surface treating **compns.** for enhancing water and oil resistance on **substrate** surfaces)

IT 76-12-0, 1,2-Difluoro-1,1,2,2-tetrachloroethane 76-13-1,
1,1,2-Trichloro-1,2,2-trifluoroethane 76-14-2,
1,2-Dichloro-1,1,2,2-tetrafluoroethane 354-58-5,
1,1,1-Trichloro-2,2,2-trifluoroethane
(in surface treating compns. for enhancing water and oil resistance on **substrate** surfaces)

L24 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:827364 HCAPLUS

DOCUMENT NUMBER: 137:314656

TITLE: Ceramics having wear-resistant coating

INVENTOR(S): Umeda, Akihiro; Kawase, Shigeki; Oikawa, Naoko

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd.,
Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002316839	A2	20021031	JP 2001-113664	2001 0412

PRIORITY APPLN. INFO.:

JP 2001-113664

2001

0412

AB The title ceramics have a coating formed on an uneven surface, where the coating has thickness larger than distance between top and bottom of the uneven surface. The ceramics may have an interlayer below the coating. Thus, an EtOH solution containing tetraethoxysilane and $\text{CF}_3(\text{CF}_2)_7\text{C}_2\text{H}_4\text{Si}(\text{OMe})_3$ was applied on a glass-ceramic substrate having $1.0\ \mu\text{m}$ uneven surface, heated at 100° for 10 min, and then fired at 300° for 30 min to give $2.0\ \mu\text{m}$ -thick coating, which showed good stain removing property even after abrasion.

IT **163004-18-0P**, 2-Perfluorooctylethyl trimethoxysilane-tetraethoxysilane copolymer

(**coating; ceramics** having wear-resistant coating)

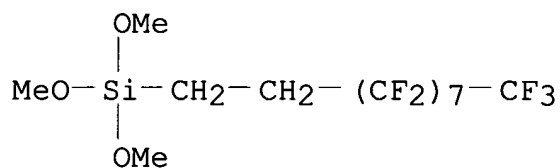
RN 163004-18-0 HCAPLUS

CN Silicic acid (H_4SiO_4), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

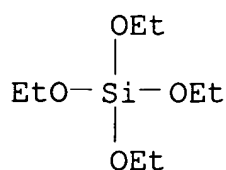
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C03C017-30
ICS C03C017-42
CC 57-2 (Ceramics)
Section cross-reference(s): 42
IT **163004-18-0P**, 2-Perfluorooctylethyl trimethoxysilane-
tetraethoxysilane copolymer
(**coating**; **ceramics** having wear-resistant
coating)

L24 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:686605 HCAPLUS

DOCUMENT NUMBER: 137:218504

TITLE: Silsesquioxane-based water-repellent coating
materials for glass surface with excellent
durability

INVENTOR(S): Kamiya, Kazutaka; Asai, Mitsuo

PATENT ASSIGNEE(S): Nippon Sheet Glass Co., Ltd., Japan; Shin-Etsu
Chemical Industry Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002256258	A2	20020911	JP 2001-57156	2001 0301
PRIORITY APPLN. INFO.: JP 2001-57156				2001 0301

AB Title materials comprises (A) a base material, (B) a
fluoroalkylsilane represents by $R_f-Si-(O-)_3$ (R_f = fluoroalkyl
group), (C) a trialkylsilane represents by $R_1R_2R_3-Si-O-$ (R_1 , R_2 ,
and R_3 = alkyl groups), wherein alkyl group of (C) is 0.2-2 times
of fluoroalkyl group of (B). Thus, a composition comprising
heptadecafluorodecyltrimethoxysilane 0.024 g,
trifluoropropyldimethylchlorosilane 0.00042 g, concentrated HCl (35
wt%)
2 g, and ethanol 0.35 g was coated on glass plate and dried at
room temperature for 1 min to give a water-repellent glass plate,
showing contact angle of 106° after 6 mo (initial contact
angle of 108°).

IT **159412-13-2DP**, Heptadecafluorodecyltrimethoxysilane homopolymer, trifluoropropyldimethylsilyl-terminated
163004-18-0DP, Heptadecafluorodecyltrimethoxysilane-tetraethoxysilane copolymer, trimethylsilyl-terminated
195529-24-9DP, Tridecafluorooctyltrimethoxysilane homopolymer, trimethylsilyl-terminated
 (manufacture of silsesquioxane-based water-repellent **coating** materials for **glass** surface)

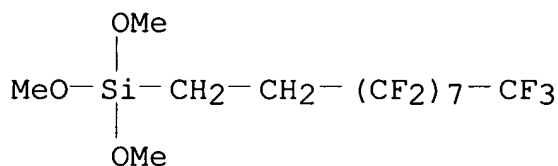
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



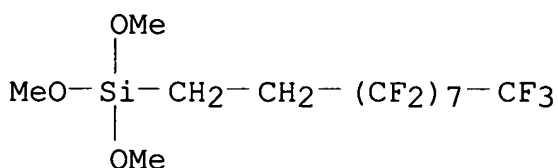
RN 163004-18-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

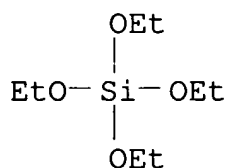
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



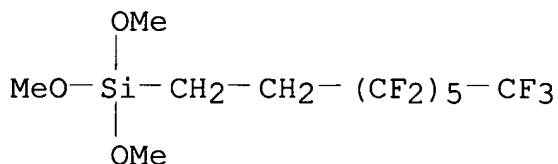
RN 195529-24-9 HCAPLUS

CN Silane, trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 85857-16-5

CMF C11 H13 F13 O3 Si



IC ICM C09K003-18

ICS C03C017-30; C08G077-24; C08K003-24; C08K005-05; C08K005-09; C08L083-08; C04B041-84

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT 75-77-4DP, Trimethylchlorosilane, reaction products with silsesquioxane 1481-41-0DP, 3,3,3-Trifluoropropyldimethylchlorosilane, reaction products with silsesquioxane 1825-61-2DP, Trimethylmethoxysilane, reaction products with silsesquioxane **159412-13-2DP**, Heptadecafluorodecyltrimethoxysilane homopolymer, trifluoropropyldimethylsilyl-terminated **163004-18-0DP**, Heptadecafluorodecyltrimethoxysilane-tetraethoxysilane copolymer, trimethylsilyl-terminated **195529-24-9DP**, Tridecafluorooctyltrimethoxysilane homopolymer, trimethylsilyl-terminated
(manufacture of silsesquioxane-based water-repellent **coating** materials for **glass** surface)

L24 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:591741 HCAPLUS

DOCUMENT NUMBER: 137:126563

TITLE: Acrylic polysiloxane coating composition,
cured product, laminate and method for
producing the cured product

INVENTOR(S): Shimada, Mibuko; Yoshimura, Nakaatsu;
Hashiguchi, Yuichi

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 1229092	A2	20020807	EP 2002-2262	2002 0130
EP 1229092	A3	20040107		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002146573	A1	20021010	US 2002-58423	2002 0130
US 6737169	B2	20040518		
JP 2002302645	A2	20021018	JP 2002-21377	2002 0130
PRIORITY APPLN. INFO.: JP 2001-24780				A 2001 0131

AB Title composition comprises a specific silyl group-containing polymer, in which the maximum size of particles contained therein is 2 μm or less, and the number of particles having a size of 0.2 μm to 2 μm is 1,000 particles/mL or less. The composition may further contain a specific compound or at least one component selected from an organosilane represented by $(\text{R1})_n\text{Si}(\text{X})_{4-n}$, a hydrolyzate of the organosilane and a condensate of the organosilane, wherein wherein, R1 independently represents a C1-C8 monovalent organic group; X represents a halogen atom or an C1-C8 alkoxyl or acetoxyl group; and n is 0, 1, or 2. Thus, a film was prepared by coating a PET film with a composition comprising hexafluoropropylene-Vinyltrimethoxysilane copolymer prepared in the presence of VPS 1001N, dimethyldimethoxysilane, 3-glycidoxypropyltrimethoxysilane in the presence of ethylacetoacetate-aluminum-di-isopropylate in

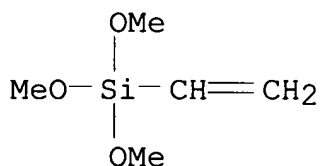
isopropanol, MEK, and water. The composition exhibits excellent in storage stability, high in hardness and excellent in mech. strength such as wear resistance. The coating film shows excellent smoothness and good taking-up properties even when no lubricant is contained.

- IT **257868-72-7P**, Ethyl vinyl ether-Methyltrimethoxysilane-Hexafluoropropylene-Dimethyldimethoxysilane-Vinyltrimethoxysilane copolymer **257868-74-9P**, Ethyl vinyl ether-Hexafluoropropylene-methyltrimethoxysilane-Vinyltrimethoxysilane copolymer **307530-50-3P**, Ethyl vinyl ether-Methyltrimethoxysilane-3-Glycidoxypropyltrimethoxysilane-Hexafluoropropylene-Vinyltrimethoxysilane copolymer **444200-46-8P**, Butyl acrylate-Cyclohexyl methacrylate-Methyltrimethoxysilane-2-Ethylhexyl acrylate-3-Glycidoxypropyltrimethoxysilane-Methyl methacrylate- γ -Methacryloxypropyltrimethoxysilane-4-Methacryloyloxy-1,2,2,6,6-pentamethylpiperidine-1H,1H,5H-Octafluoropentyl methacrylate copolymer
(manufacture of acrylic polysiloxane **coating** composition for **plastic** films)
- RN 257868-72-7 HCAPLUS
- CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

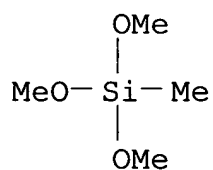
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CM 2

CRN 1185-55-3

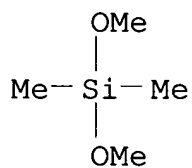
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

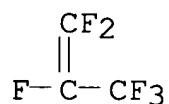
CMF C4 H12 O2 Si



CM 4

CRN 116-15-4

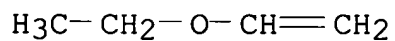
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



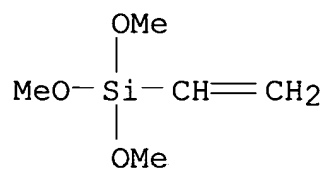
RN 257868-74-9 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
 1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI)
 (CA INDEX NAME)

CM 1

CRN 2768-02-7

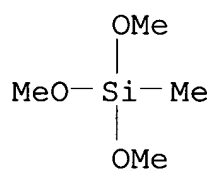
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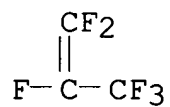
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CM 3

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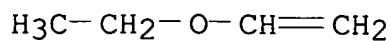
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CM 4

CRN 109-92-2

CMF C4 H8 O



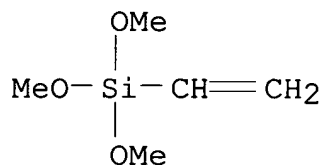
RN 307530-50-3 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene, trimethoxymethylsilane and
trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

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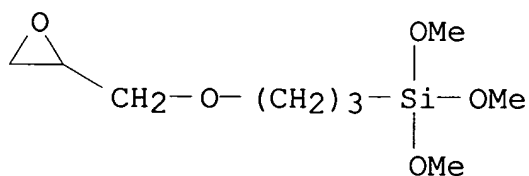
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CM 2

CRN 2530-83-8

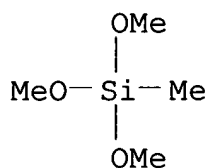
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CM 3

CRN 1185-55-3

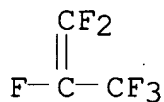
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CM 4

CRN 116-15-4

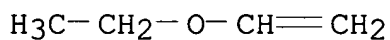
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



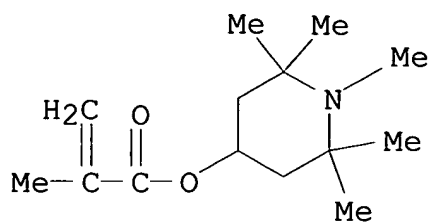
RN 444200-46-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with butyl
 2-propenoate, 2-ethylhexyl 2-propenoate, methyl
 2-methyl-2-propenoate, 2,2,3,3,4,4,5,5-octafluoropentyl
 2-methyl-2-propenoate, 1,2,2,6,6-pentamethyl-4-piperidinyl
 2-methyl-2-propenoate, trimethoxymethylsilane,
 trimethoxy[3-(oxiranylmethoxy)propyl]silane and
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 68548-08-3

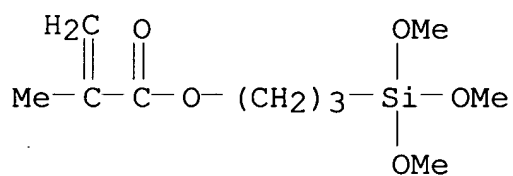
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CM 2

CRN 2530-85-0

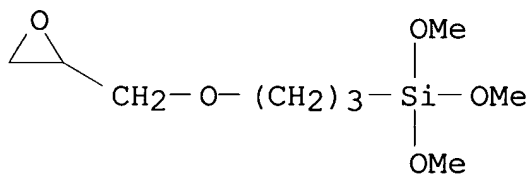
CMF C10 H20 O5 Si



CM 3

CRN 2530-83-8

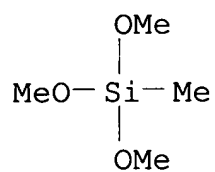
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CM 4

CRN 1185-55-3

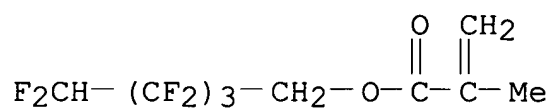
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CM 5

CRN 355-93-1

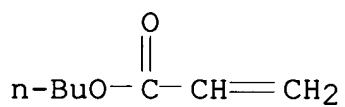
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CM 6

CRN 141-32-2

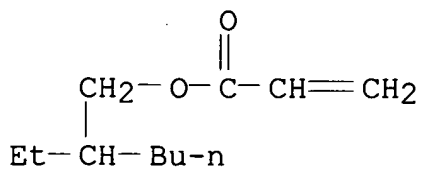
CMF C7 H12 O2



CM 7

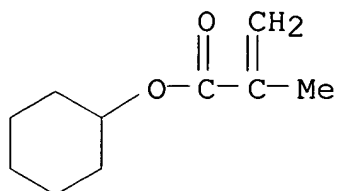
CRN 103-11-7

CMF C11 H20 O2



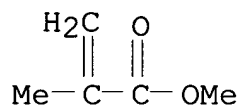
CM 8

CRN 101-43-9
CMF C10 H16 O2



CM 9

CRN 80-62-6
CMF C5 H8 O2



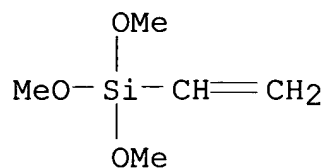
IT **104888-06-4P**, Ethyl vinyl ether-hexafluoropropylene-Vinyltrimethoxysilane copolymer **444200-45-7P**, Butyl acrylate-Cyclohexyl methacrylate-2-Ethylhexyl acrylate-Methyl methacrylate- γ -Methacryloxypropyltrimethoxysilane-4-Methacryloyloxy-1,2,2,6,6-pentamethylpiperidine-1H,1H,5H-Octafluoropentyl methacrylate copolymer
(manufacture of acrylic polysiloxane **coating** composition for **plastic** films)

RN 104888-06-4 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

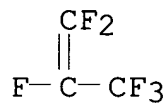
CRN 2768-02-7
CMF C5 H12 O3 Si



CM 2

CRN 116-15-4

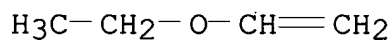
CMF C3 F6



CM 3

CRN 109-92-2

CMF C4 H8 O



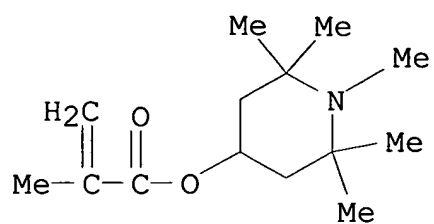
RN 444200-45-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with butyl
 2-propenoate, 2-ethylhexyl 2-propenoate, methyl
 2-methyl-2-propenoate, 2,2,3,3,4,4,5,5-octafluoropentyl
 2-methyl-2-propenoate, 1,2,2,6,6-pentamethyl-4-piperidinyl
 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 68548-08-3

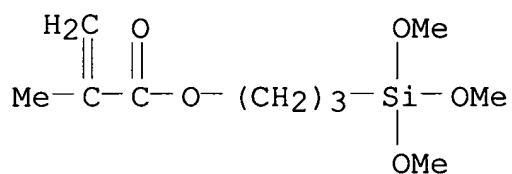
CMF C14 H25 N O2



CM 2

CRN 2530-85-0

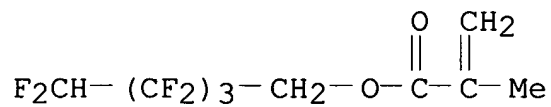
CMF C10 H20 O5 Si



CM 3

CRN 355-93-1

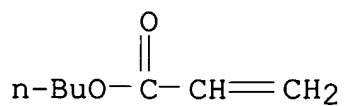
CMF C9 H8 F8 O2



CM 4

CRN 141-32-2

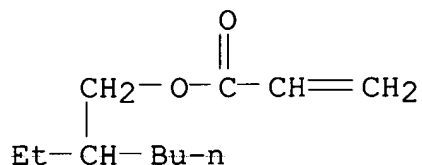
CMF C7 H12 O2



CM 5

CRN 103-11-7

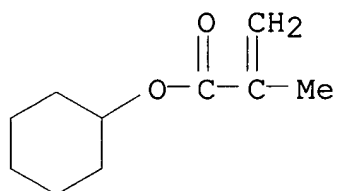
CMF C11 H20 O2



CM 6

CRN 101-43-9

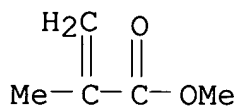
CMF C10 H16 O2



CM 7

CRN 80-62-6

CMF C5 H8 O2



IC ICM C09D157-06

ICS C09D143-04; C09D201-10

CC 42-10 (Coatings, Inks, and Related Products)

IT 79-10-7DP, Acrylic acid, derivs., reaction products with
 caprolactone, polymers with acrylates and siloxanes 80-62-6DP,
 Methyl methacrylate, polymers with acrylates and siloxanes
 101-43-9DP, Cyclohexyl methacrylate, polymers with acrylates and

siloxanes 103-11-7DP, 2-Ethylhexyl acrylate, polymers with acrylates and siloxanes 106-91-2DP, Glycidyl methacrylate, polymers with acrylates and siloxanes 109-92-2DP, Ethyl vinyl ether, polymers with hexafluoropropylene, vinyltrimethoxysilane, and methylpolysiloxanes 116-15-4DP, Hexafluoropropylene, polymers with Et vinyl ether, vinyltrimethoxysilane, and methylpolysiloxanes 502-44-3DP, Caprolactone, reaction products with acrylate, polymers with acrylates and siloxanes 1185-55-3DP, Methyltrimethoxysilane, reaction products with silyl-containing acrylic polymer 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, reaction products with silyl-containing acrylic polymer 2530-85-0DP, γ -Methacryloxypropyltrimethoxysilane, polymers with acrylates and siloxanes 2768-02-7DP, Vinyltrimethoxysilane, polymers with Et vinyl ether, hexafluoropropylene, and methylpolysiloxanes 68548-08-3DP, 4-Methacryloyloxy-1,2,2,6,6-pentamethylpiperidine, polymers with acrylates and siloxanes **257868-72-7P**, Ethyl vinyl ether-Methyltrimethoxysilane-Hexafluoropropylene-Dimethyldimethoxysilane-Vinyltrimethoxysilane copolymer **257868-74-9P**, Ethyl vinyl ether-Hexafluoropropylene-methyltrimethoxysilane-Vinyltrimethoxysilane copolymer **307530-50-3P**, Ethyl vinyl ether-Methyltrimethoxysilane-3-Glycidoxypropyltrimethoxysilane-Hexafluoropropylene-Vinyltrimethoxysilane copolymer **444200-46-8P**, Butyl acrylate-Cyclohexyl methacrylate-Methyltrimethoxysilane-2-Ethylhexyl acrylate-3-Glycidoxypropyltrimethoxysilane-Methyl methacrylate- γ -Methacryloxypropyltrimethoxysilane-4-Methacryloyloxy-1,2,2,6,6-pentamethylpiperidine-1H,1H,5H-Octafluoropentyl methacrylate copolymer

(manufacture of acrylic polysiloxane **coating** composition for **plastic** films)

IT **104888-06-4P**, Ethyl vinyl ether-hexafluoropropylene-Vinyltrimethoxysilane copolymer **444200-45-7P**, Butyl acrylate-Cyclohexyl methacrylate-2-Ethylhexyl acrylate-Methyl methacrylate- γ -Methacryloxypropyltrimethoxysilane-4-Methacryloyloxy-1,2,2,6,6-pentamethylpiperidine-1H,1H,5H-Octafluoropentyl methacrylate copolymer

(manufacture of acrylic polysiloxane **coating** composition for **plastic** films)

L24 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:381196 HCAPLUS

DOCUMENT NUMBER: 136:389709

TITLE: water-repellent compositions and glass coated with them

INVENTOR(S): Asai, Mitsuo; Uehara, Hitoshi; Ogawa, Hisashi; Kamiya, Kazutaka

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan;

SOURCE: Nippon Sheet Glass Co., Ltd.
 Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002145645	A2	20020522	JP 2000-335462	2000 1102

PRIORITY APPLN. INFO.: JP 2000-335462
 2000
 1102

AB The compns. comprise 100 parts RfSiX₃ (Rf = C₃-12 F-containing hydrocarbyl; X = hydrolyzable group) or their partial hydrolyzates and 1-20 parts R₃SiY (R = C₁-10 hydrocarbyl; Y = hydrolyzable group). The compns. do not produce residue on the surface of a glass.

IT **159412-13-2DP**, trimethylsilyl-terminated
173966-00-2DP, trimethylsilyl-terminated
 (water-repellent compns. and **glass coated**
 with them)

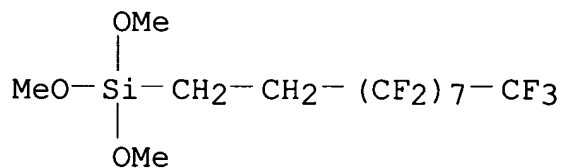
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



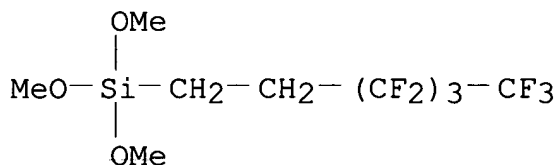
RN 173966-00-2 HCAPLUS

CN Silane, trimethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 85877-79-8

CMF C9 H13 F9 O3 Si



IC ICM C03C017-30

ICS C09K003-18

CC 57-1 (Ceramics)

Section cross-reference(s): 42

IT **159412-13-2DP**, trimethylsilyl-terminated 161045-59-6P**173966-00-2DP**, trimethylsilyl-terminated 175033-08-6DP,
trimethylsilyl-terminated(water-repellent compns. and **glass coated**
with them)

L24 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:265038 HCAPLUS

DOCUMENT NUMBER: 136:311310

TITLE: Low-temperature-curable acrylic coating
compositions with good storage stability and
adhesion to various **substrates**INVENTOR(S): Kageishi, Kazuji; Osanai, Yoshitaka; Ando,
Yumi

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002105388	A2	20020410	JP 2000-295833	

2000
0928

PRIORITY APPLN. INFO.:

JP 2000-295833

2000

0928

AB Title compns. comprise (A) acrylic polymers obtained from hydroxy-containing acrylic polymers with number average mol. weight 500-80,000 derived from OH-containing unsatd. monomers and epoxy group-containing acrylic polymers with number average mol. weight 500-80,000 derived from epoxy-containing unsatd. monomers, (B) curing agents, and nonionic surfactants, wherein the polymers (A) have epoxy-containing unsatd. monomer content <5000 ppm. Thus, 100 parts polymer prepared from 20/80 Me methacrylate-2-hydroxyethyl methacrylate copolymer and Bu acrylate-Bu methacrylate-Cyclomer A 200-Me methacrylate copolymer was mixed with Surfion KH 40 (ethoxylated perfluoroalkyl alc. surfactant) 5000 ppm, Alumichelate AW [aluminum tri(acetyl acetate)] 3 and acetylacetone 6 parts, coated on **substrates** and cured, showing good adhesion to various **substrates** (such as **glass**, ABS, steel and Al plates), curability and storage stability at 23-40°.

IT **409365-00-0P**

(low-temperature-curable acrylic coating **compns.** with good storage stability and adhesion to various **substrates**)

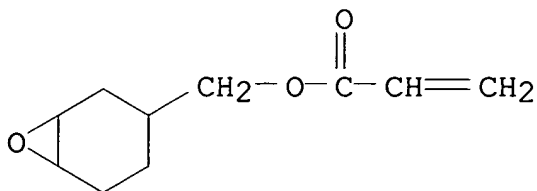
RN 409365-00-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-propenoate, oxiranylmethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 64630-63-3

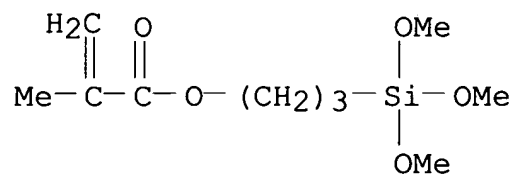
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CM 2

CRN 2530-85-0

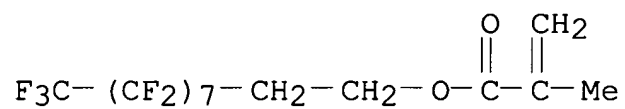
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CM 3

CRN 1996-88-9

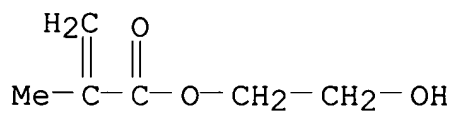
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CM 4

CRN 868-77-9

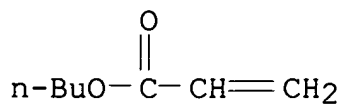
CMF C6 H10 O3



CM 5

CRN 141-32-2

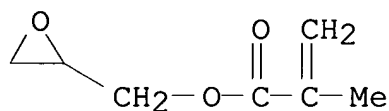
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CM 6

CRN 106-91-2

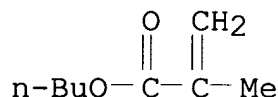
CMF C7 H10 O3



CM 7

CRN 97-88-1

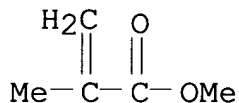
CMF C8 H14 O2



CM 8

CRN 80-62-6

CMF C5 H8 O2



IT 409365-01-1P

(low-temperature-curable acrylic coating **compns.** with good storage stability and adhesion to various **substrates**)

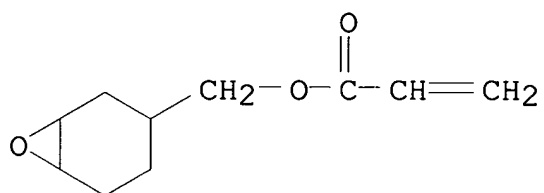
RN 409365-01-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-propenoate, oxiranylmethyl 2-methyl-2-propenoate, trimethoxy[3-(oxiranylmethoxy)propyl]silane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 64630-63-3

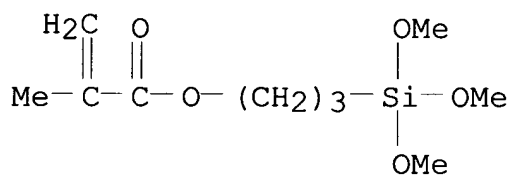
CMF C10 H14 O3



CM 2

CRN 2530-85-0

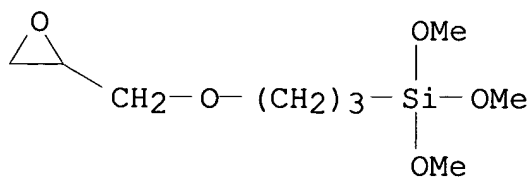
CMF C10 H20 O5 Si



CM 3

CRN 2530-83-8

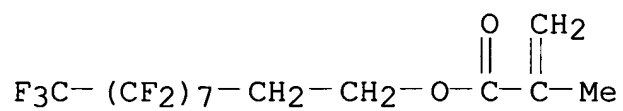
CMF C9 H20 O5 Si



CM 4

CRN 1996-88-9

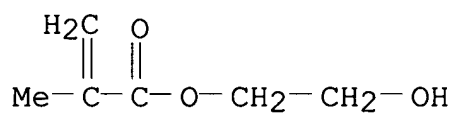
CMF C14 H9 F17 O2



CM 5

CRN 868-77-9

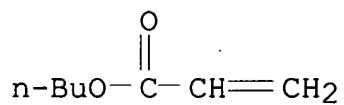
CMF C6 H10 O3



CM 6

CRN 141-32-2

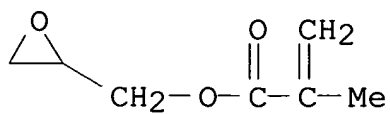
CMF C7 H12 O2



CM 7

CRN 106-91-2

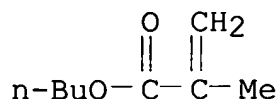
CMF C7 H10 O3



CM 8

CRN 97-88-1

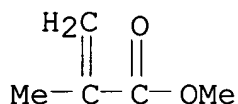
CMF C8 H14 O2



CM 9

CRN 80-62-6

CMF C5 H8 O2



- IC ICM C09D133-14
ICS C08F265-00; C09D005-02; C09D143-00; C09D151-06; C09D163-00;
C09D175-04; C09D183-04
- CC 42-10 (**Coatings**, Inks, and Related Products)
- IT Polysiloxanes, uses
Polyurethanes, uses
(acrylic-epoxy; low-temperature-curable acrylic coating compns.
with good storage stability and adhesion to various **substrates**)
- IT Epoxy resins, uses
(acrylic-polysiloxane-; low-temperature-curable acrylic coating
compns. with good storage stability and adhesion to various **substrates**)
- IT Epoxy resins, uses
(acrylic-polyurethane-; low-temperature-curable acrylic coating
compns. with good storage stability and adhesion to various **substrates**)
- IT Aminoplasts
Polysiloxanes, uses
(acrylic; low-temperature-curable acrylic coating compns. with good
storage stability and adhesion to various **substrates**)
- IT Perfluoro compounds
(alkynyl alcs., ethoxylated, surfactant; low-temperature-curable
acrylic coating compns. with good storage stability and
adhesion to various **substrates**)
- IT Alcohols, uses
(alkynyl, perfluoro, ethoxylated, surfactant;
low-temperature-curable
acrylic coating compns. with good storage stability and

- adhesion to various **substrates**)
- IT Cement
(asbestos; low-temperature-curable acrylic coating compns. with
good storage stability and adhesion to various **substrates**)
- IT Reinforced **plastics**
(carbon fiber-reinforced; low-temperature-curable acrylic coating
compns. with good storage stability and adhesion to various
substrates)
- IT Surfactants
(fluorosurfactants; low-temperature-curable acrylic coating compns.
with good storage stability and adhesion to various
substrates)
- IT Coating materials
(low-temperature-curable; low-temperature-curable acrylic coating
compns.
with good storage stability and adhesion to various
substrates)
- IT Surfactants
(nonionic; low-temperature-curable acrylic coating compns. with
good storage stability and adhesion to various **substrates**)
- IT Coating materials
(storage-stable; low-temperature-curable acrylic coating compns.
with good storage stability and adhesion to various
substrates)
- IT **Glass**, miscellaneous
Polycarbonates, miscellaneous
(**substrate**; low-temperature-curable acrylic coating compns.
with good storage stability and adhesion to various
substrates)
- IT Aluminum alloy, base
Magnesium alloy, base
(**substrate**; low-temperature-curable acrylic coating compns.
with good storage stability and adhesion to various
substrates)
- IT 26355-01-1P, 2-Hydroxyethyl methacrylate-methyl methacrylate
copolymer 38437-12-6P, Glycidyl methacrylate-2-hydroxyethyl
methacrylate-methyl methacrylate copolymer 99038-07-0P
124348-85-2P 146241-49-8P 409364-99-4P **409365-00-0P**
(low-temperature-curable acrylic coating **compns.** with good
storage stability and adhesion to various **substrates**)
- IT 253874-55-4P, Butyl acrylate-butyl methacrylate-glycidyl
methacrylate-2-hydroxyethyl methacrylate-methyl methacrylate-SH
6040 copolymer 318988-59-9P, Butyl acrylate-butyl
methacrylate-Cyclomer A 200-2-hydroxyethyl methacrylate-methyl
methacrylate copolymer 409364-96-1P 409364-97-2P

409364-98-3P **409365-01-1P** 410076-37-8P(low-temperature-curable acrylic coating **compns.** with good storage stability and adhesion to various **substrates**)

IT 9003-07-0, Polypropylene 9003-56-9, ABS 12597-69-2, Steel, miscellaneous

(substrate; low-temperature-curable acrylic coating compns. with good storage stability and adhesion to various **substrates**)

IT 9016-45-9, Newcol 564 251907-30-9, Surflon KH 40 410076-01-6, Megafac F 471

(surfactant; low-temperature-curable acrylic coating compns. with good storage stability and adhesion to various **substrates**)

L24 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:129274 HCAPLUS

DOCUMENT NUMBER: 136:185461

TITLE: Fluoroorganopolysiloxane-based film-forming compositions

INVENTOR(S): Matsumura, Kazuyuki; Yamatani, Masaaki; Asai, Mitsuo; Sato, Kazuharu

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002053806	A2	20020219	JP 2000-237502	2000 0804

PRIORITY APPLN. INFO.: JP 2000-237502

2000
0804

OTHER SOURCE(S): MARPAT 136:185461

AB Title compns., with good adhesion, antireflection, transparency, and weather resistance, contain condensates prepared from silanes and fluoroalkyl-containing silane hydrolyzates. A polycarbonate plate was coated with a composition containing γ -acryloxypropyltrimethoxysilane-C₈F₁₇(CH₂)₂Si(CH₃)(OH)₂ condensate and an initiator and UV-cured to form a film with pencil hardness H, water repellency 101°, refractive index 1.38, reflection degree 2.0%, and good adhesion, transparency, and soil, scratch,

and weather resistance.

IT **399039-09-9P**, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol copolymer
399039-10-2P, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-11-3P**, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol-2-(perfluorooctyl)ethyl acrylate-silica copolymer
 (crosslinked; fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

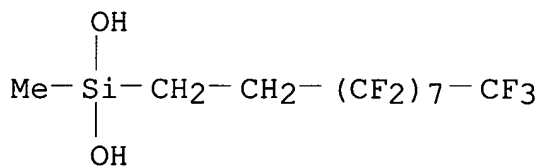
RN 399039-09-9 HCAPLUS

CN 2-Propenoic acid, 3-(trimethoxysilyl)propyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)methylsilanediol (9CI) (CA INDEX NAME)

CM 1

CRN 160447-73-4

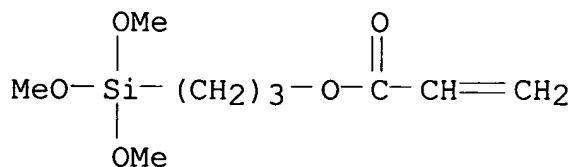
CMF C11 H9 F17 O2 Si



CM 2

CRN 4369-14-6

CMF C9 H18 O5 Si



RN 399039-10-2 HCAPLUS

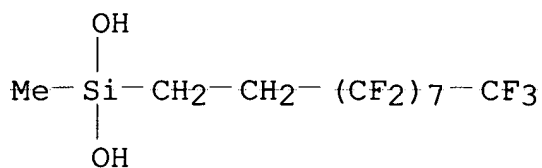
CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)methylsilanediol, silicic acid (H4SiO4)

tetraethyl ester and 3-(trimethoxysilyl)propyl 2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 160447-73-4

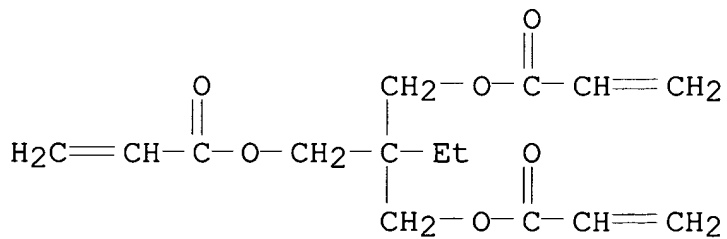
CMF C11 H9 F17 O2 Si



CM 2

CRN 15625-89-5

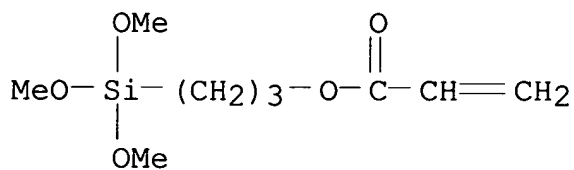
CMF C15 H20 O6



CM 3

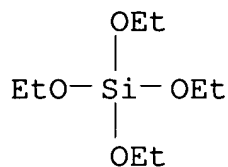
CRN 4369-14-6

CMF C9 H18 O5 Si



CM 4

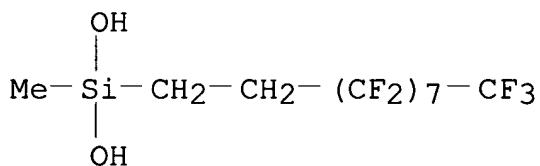
CRN 78-10-4
CMF C8 H20 O4 Si



RN 399039-11-3 HCAPLUS
CN 2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)methylsilanediol, silica and 3-(trimethoxysilyl)propyl 2-propenoate (9CI) (CA INDEX NAME)

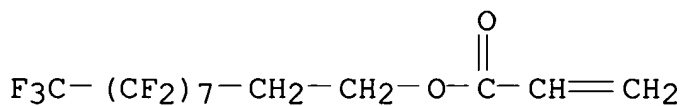
CM 1

CRN 160447-73-4
CMF C11 H9 F17 O2 Si



CM 2

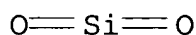
CRN 27905-45-9
CMF C13 H7 F17 O2



CM 3

CRN 7631-86-9

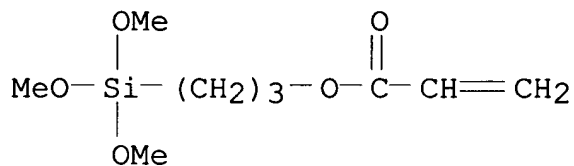
CMF 02 Si



CM 4

CRN 4369-14-6

CMF C9 H18 O5 Si

IT 399039-12-4P 399039-13-5P, γ -

Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilane diol-2-(perfluorooctyl)ethyl acrylate-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-14-6P**, (2-Perfluorooctylethyl)methylsilanediol-methyltrimethoxysilane-tetraethoxysilane-silica copolymer

(fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

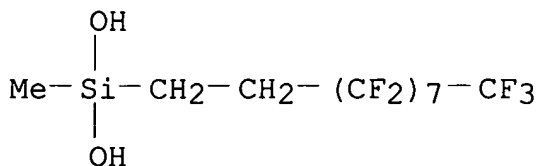
RN 399039-12-4 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)methylsilanediol and 3-(trimethoxysilyl)propyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 160447-73-4

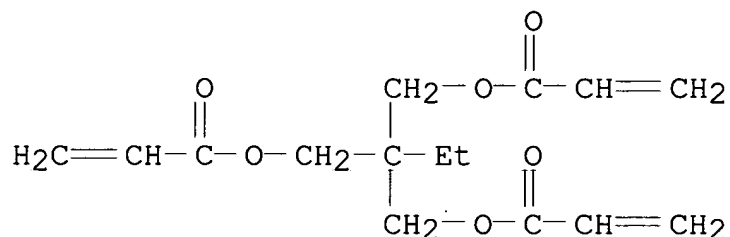
CMF C11 H9 F17 O2 Si



CM 2

CRN 15625-89-5

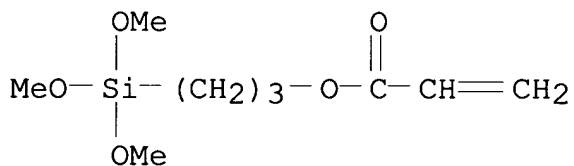
CMF C15 H20 O6



CM 3

CRN 4369-14-6

CMF C9 H18 O5 Si



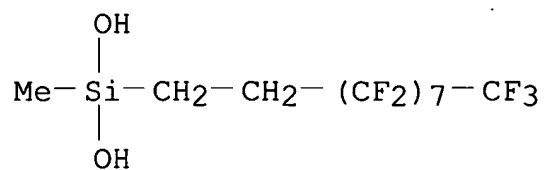
RN 399039-13-5 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)methylsilanediol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, silicic acid (H4SiO4) tetraethyl ester and 3-(trimethoxysilyl)propyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 160447-73-4

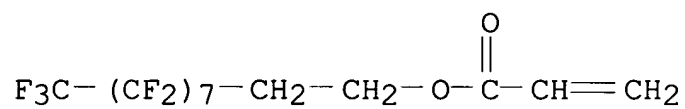
CMF C11 H9 F17 O2 Si



CM 2

CRN 27905-45-9

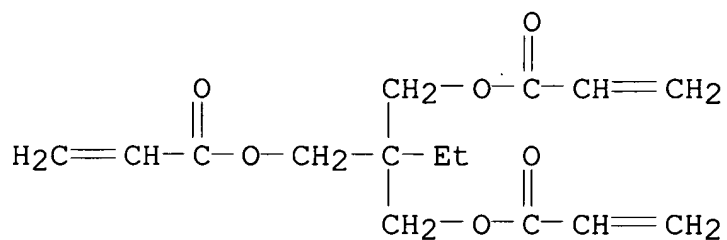
CMF C13 H7 F17 O2



CM 3

CRN 15625-89-5

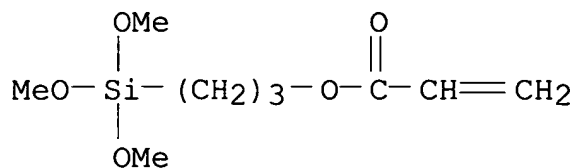
CMF C15 H20 O6



CM 4

CRN 4369-14-6

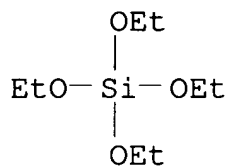
CMF C9 H18 O5 Si



CM 5

CRN 78-10-4

CMF C8 H20 O4 Si



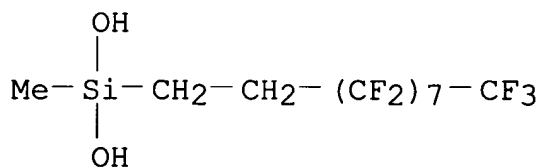
RN 399039-14-6 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with
(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl)methylsilanediol, silica and
trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 160447-73-4

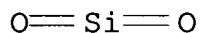
CMF C11 H9 F17 O2 Si



CM 2

CRN 7631-86-9

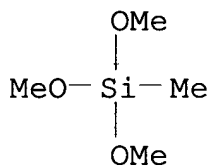
CMF O2 Si



CM 3

CRN 1185-55-3

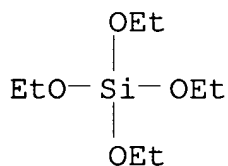
CMF C4 H12 O3 Si



CM 4

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C09D183-08

ICS B32B027-00; C08F290-06; C08G077-16; C08G077-20; C08G077-24;
C08G077-26; C08G077-28; C09D005-16; C09D143-04; C09D183-02;
C09D183-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 73

IT **399039-09-9P**, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol copolymer

399039-10-2P, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-11-3P**,

γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilanediol-2-(perfluorooctyl)ethyl acrylate-silica copolymer

(crosslinked; fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

IT 1760-24-3DP, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane, reaction products with epoxyalkoxysilanes, polymers with alkoxysilyl-containing acrylic resins 2897-60-1DP, γ -Glycidoxypropylmethyldiethoxysilane, reaction products with aminoalkoxysilanes, polymers with alkoxysilyl-containing acrylic resins 124479-37-4P, Ethyl acrylate-ethylene glycol dimethacrylate-glycidyl methacrylate-3-(trimethoxysilyl)propyl methacrylate-methyl methacrylate-vinyl acetate copolymer **399039-12-4P 399039-13-5P**, γ -Acryloxypropyltrimethoxysilane-(2-perfluorooctylethyl)methylsilane diol-2-(perfluorooctyl)ethyl acrylate-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-14-6P**, (2-Perfluorooctylethyl)methylsilanediol-methyltrimethoxysilane-tetraethoxysilane-silica copolymer (fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

L24 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:129273 HCAPLUS

DOCUMENT NUMBER: 136:185460

TITLE: Fluoroorganopolysiloxane-based film-forming compositions

INVENTOR(S): Matsumura, Kazuyuki; Yamatani, Masaaki; Asai, Mitsuo; Sato, Kazuharu

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002053805	A2	20020219	JP 2000-237490	2000 0804

PRIORITY APPLN. INFO.: JP 2000-237490

2000
0804

AB Title compns., with good adhesion, antireflection, transparency, and weather resistance, contain title polysiloxanes prepared by hydrolytic polycondensation of 100 parts blends of $R_f(CH_2)_aX(CH_2)_bSiR_1c(OR_2)_3-c$ { $R_f = C_nF_{2n+1}$ or $CF_3CF_2CF_2O[C(CF_3)FCF_2]_mC(CF_3)F$ with $m \geq 1$ and $n = 1-20$; R_1 ,

R2 = C1-4 alkyl; X = CH2, CH2O, NR3, COO, CONR3, S, SO2, SO2NR3, R3 = H or C1-8 alkyl; a = 0-3,; b = 1-3; c = 0-1} and R4dSi(OR5)4-d (R4 = C1-10 alkyl; R5 = C1-10 alkyl, alkenyl, aryl, alkoxyalkyl, acyl; d = 0-3) in the presence of 200-2,000 parts water or in fluoro solvents. A polycarbonate plate was coated with a composition containing γ -acryloxypropyltrimethoxysilane-C8F17(CH2)2Si(OMe)3 hydrolyzate 100, an initiator 5, and trimethylolpropane triacrylate 10 parts and UV-cured to form a film with pencil hardness H, water repellency 103°, refractive index 1.38, reflection degree 2.0%, and good adhesion, transparency, and soil, scratch, and weather resistance.

IT **399039-00-0P**, γ -Acryloxypropyltrimethoxysilane-2-perfluorooctylethyltrimethoxysilane-trimethylolpropane triacrylate copolymer **399039-01-1P**, 3-Acryloxypropyltrimethoxysilane-(3-acryloxypropyl)methyldimethoxysilane-2-(perfluorooctyl)ethyl acrylate-2-perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-02-2P**, γ -Acryloxypropyltrimethoxysilane-3-(acryloxypropyl)methyldimethoxysilane-2-perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-trimethylolpropane triacrylate-silica-tetraethoxysilane copolymer (crosslinked; fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

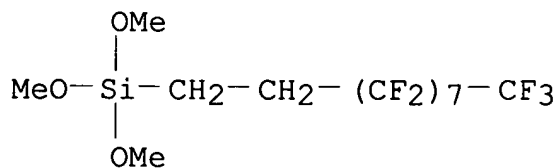
RN 399039-00-0 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane and 3-(trimethoxysilyl)propyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

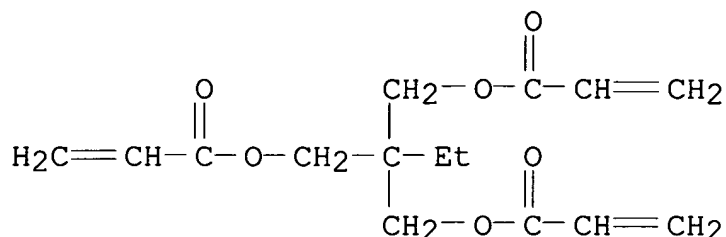
CMF C13 H13 F17 O3 Si



CM 2

CRN 15625-89-5

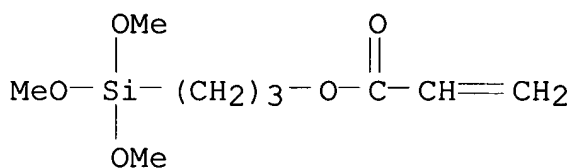
CMF C15 H20 O6



CM 3

CRN 4369-14-6

CMF C9 H18 O5 Si



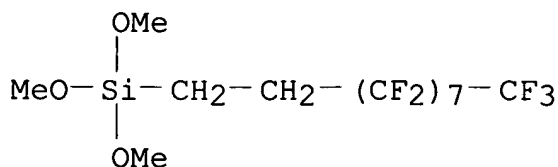
RN 399039-01-1 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 3-(dimethoxymethylsilyl)propyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane, silicic acid (H₄SiO₄) tetraethyl ester, 3-(trimethoxysilyl)propyl 2-propenoate and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

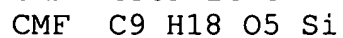
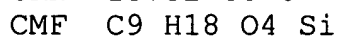
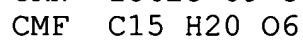
CM 1

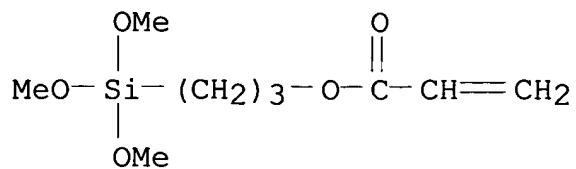
CRN 83048-65-1

CMF C13 H13 F17 O3 Si



CMF C13 H7 F17 O2

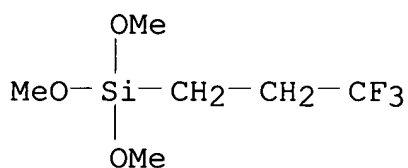




CM 6

CRN 429-60-7

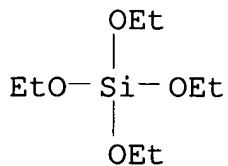
CMF C6 H13 F3 O3 Si



CM 7

CRN 78-10-4

CMF C8 H20 O4 Si



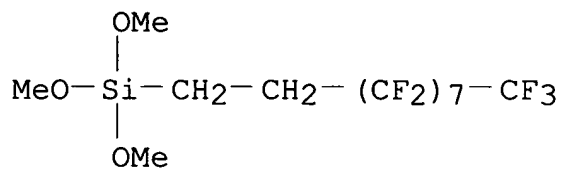
RN 399039-02-2 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 3-(dimethoxymethylsilyl)propyl 2-propenoate, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane, silica, silicic acid (H4SiO4) tetraethyl ester, 3-(trimethoxysilyl)propyl 2-propenoate and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

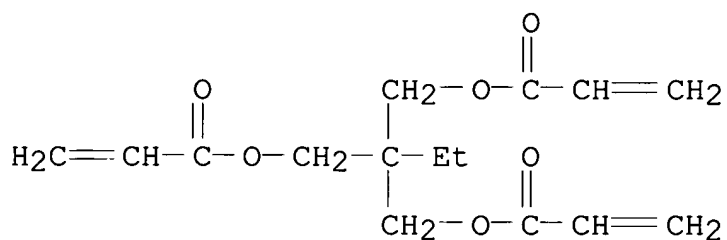
CMF C13 H13 F17 O3 Si



CM 2

CRN 15625-89-5

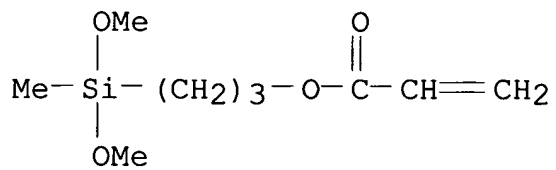
CMF C15 H20 O6



CM 3

CRN 13732-00-8

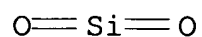
CMF C9 H18 O4 Si



CM 4

CRN 7631-86-9

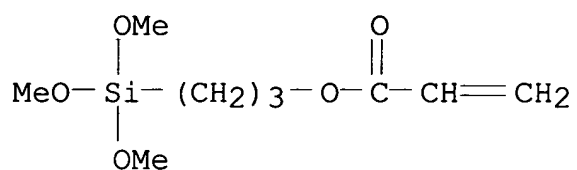
CMF O2 Si



CM 5

CRN 4369-14-6

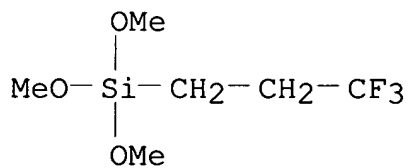
CMF C9 H18 O5 Si



CM 6

CRN 429-60-7

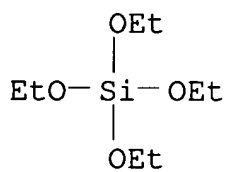
CMF C6 H13 F3 O3 Si



CM 7

CRN 78-10-4

CMF C8 H20 O4 Si



IT **159412-13-2P**, 2-Perfluorooctylethyltrimethoxysilane
homopolymer **395084-01-2P**, 2-

Perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-tetraethoxysilane copolymer
399039-03-3P, 2-Perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-methyltrimethoxysilane copolymer

(fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

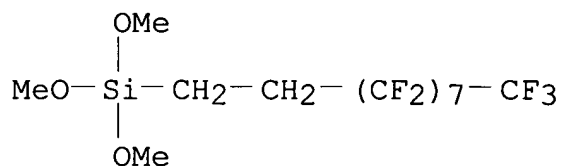
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



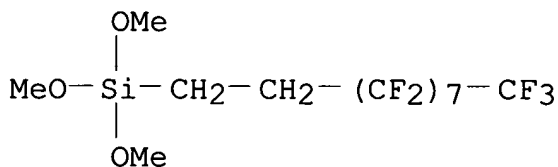
RN 395084-01-2 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

CM 1

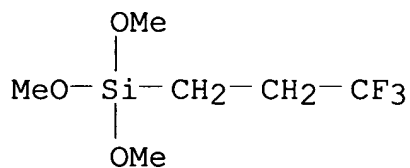
CRN 83048-65-1

CMF C13 H13 F17 O3 Si



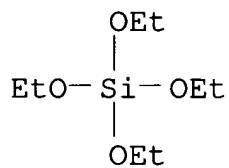
CM 2

CRN 429-60-7
CMF C6 H13 F3 O3 Si



CM 3

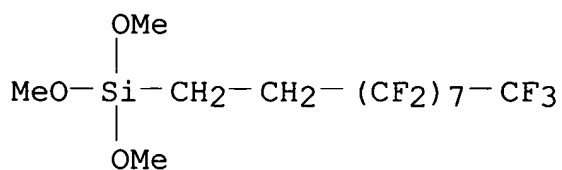
CRN 78-10-4
CMF C8 H20 O4 Si



RN 399039-03-3 HCAPLUS
CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxy-, polymer with trimethoxymethylsilane and trimethoxy(3,3,3-trifluoropropyl)silane (9CI) (CA INDEX NAME)

CM 1

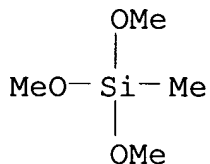
CRN 83048-65-1
CMF C13 H13 F17 O3 Si



CM 2

CRN 1185-55-3

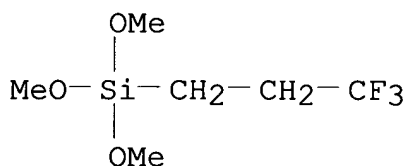
CMF C4 H12 O3 Si



CM 3

CRN 429-60-7

CMF C6 H13 F3 O3 Si



IC ICM C09D183-08

ICS C08G077-24; C08G077-26; C08G077-28; C08G077-46; C09D005-00;
C09D005-16

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 73

IT **399039-00-0P**, γ -Acryloxypropyltrimethoxysilane-2-perfluorooctylethyltrimethoxysilane-trimethylolpropane triacrylate copolymer **399039-01-1P**, 3-Acryloxypropyltrimethoxysilane-(3-acryloxypropyl)methyldimethoxysilane-2-(perfluorooctyl)ethyl acrylate-2-perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-trimethylolpropane triacrylate-tetraethoxysilane copolymer **399039-02-2P**, γ -Acryloxypropyltrimethoxysilane-3-(acryloxypropyl)methyldimethoxysilane-2-perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-trifluoropropyl)silane-trimethylolpropane triacrylate-silica-tetraethoxysilane copolymer (crosslinked; fluoropolysiloxane hard **coatings** with **plastic** adhesion and soil and water and weather resistance for antireflective articles)

IT 1760-24-3DP, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane, reaction product with epoxyalkoxysilane, polymers with alkoxysilyl-containing acrylic resins 2897-60-1DP, γ -Glycidoxypropylmethyldiethoxysilane, reaction product with

aminoalkoxysilane, polymers with alkoxysilyl-containing acrylic resins
157287-40-6P, Trimethoxy(3,3,3,-Trifluoropropyl)silane homopolymer
159412-13-2P, 2-Perfluorooctylethyltrimethoxysilane
homopolymer 161045-59-6P 162023-57-6P **395084-01-2P**,
2-Perfluorooctylethyltrimethoxysilane-trimethoxy(3,3,3-
trifluoropropyl)silane-tetraethoxysilane copolymer
399039-03-3P, 2-Perfluorooctylethyltrimethoxysilane-
trimethoxy(3,3,3-trifluoropropyl)silane-methyltrimethoxysilane
copolymer
(fluoropolysiloxane hard **coatings** with
plastic adhesion and soil and water and weather
resistance for antireflective articles)

L24 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:77291 HCAPLUS

DOCUMENT NUMBER: 136:136360

TITLE: Durable coatings on glass having high slip
speed for water drops and production methods
therefor

INVENTOR(S): Sugawara, Satoko

PATENT ASSIGNEE(S): Nissan Motor Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002029783	A2	20020129	JP 2000-213867	

2000
0714

PRIORITY APPLN. INFO.: JP 2000-213867

2000
0714

AB Mixts. of hydrolyzed polydimethylsilsesquioxanes (I) and
polydimethylsiloxanes are coated on glass. Thus, a coating
material contained a hydrolyzate of 30:70 I and
 $\text{Me}_3\text{SiO}(\text{SiMe}_2\text{O})_n\text{SiMe}_2\text{CH}_2\text{CHOHCH}_2\text{NHC}_3\text{H}_6\text{Si}(\text{OMe})_3$.

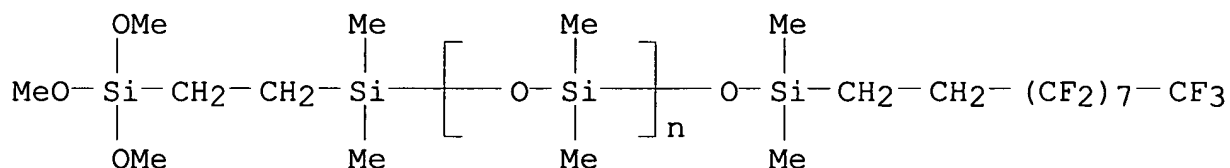
IT **392260-04-7DP**, reaction products with hydrolyzable
polydimethylsilsesquioxane

(**coatings** on **glass** having high slip speed
for water drops and production methods therefor)

RN 392260-04-7 HCAPLUS

CN Poly[oxy(dimethylsilylene)], α -[dimethyl[2-

(trimethoxysilyl)ethyl)silyl]- ω -
 [[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
 heptadecafluorodecyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



IC ICM C03C017-30
 ICS B32B017-10; C03C017-42; C09K003-18; C09D005-00; C09D183-04
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 57
 IT 153315-80-1DP, hydroxy- and chlorine- and ethoxy-terminated,
 reaction products with hydrolyzable polydimethylsiloxanes
 223779-08-6DP, reaction products with hydrolyzable
 polydimethylsilsesquioxane 392260-03-6DP, reaction products with
 hydrolyzable polydimethylsilsesquioxane **392260-04-7DP**,
 reaction products with hydrolyzable polydimethylsilsesquioxane
 (**coatings on glass** having high slip speed
 for water drops and production methods therefor)

L24 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:55014 HCAPLUS
 DOCUMENT NUMBER: 136:280698
 TITLE: Organically modified ceramics for coating
 textile materials
 AUTHOR(S): Textor, T.; Bahnert, T.; Schollmeyer, E.
 CORPORATE SOURCE: Deutsches Testilforschungszentrum Nord-West
 e.V., Krefeld, 47798, Germany
 SOURCE: Progress in Colloid & Polymer Science (2001),
 117(Adsorption and Nanostructures), 76-79
 CODEN: PCPSD7; ISSN: 0340-255X
 PUBLISHER: Springer
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Fabrics made of poly(ethylene terephthalate) (PET) and glass
 fibers were coated with different modified inorg.-organic hybrid
 polymers based on 3-glycidyloxypropyl trimethoxysilane. In the
 case of PET the focus was to affect the surface specific
 properties especially the hydrophobic, oleophobic and hydrophilic
 properties. The glass fiber fabric was finished with a composite
 that improves the wear resistance.
 IT **150600-19-4P**, Tridecafluoro-1,1,2,2-
 tetrahydrooctyltriethoxysilane homopolymer

(organically modified **ceramics** for **coating**
textile materials)

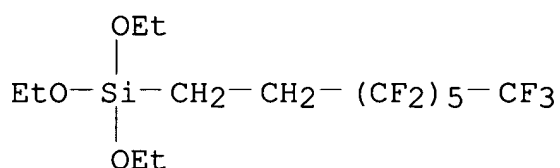
RN 150600-19-4 HCAPLUS

CN Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 51851-37-7

CMF C14 H19 F13 O3 Si



CC 40-5 (Textiles and Fibers)

Section cross-reference(s): 42, 57

IT 26355-29-3P, Propyltrimethoxysilane homopolymer 56325-93-0P,

3-Glycidyloxypropyltrimethoxysilane homopolymer

150600-19-4P, Tridecafluoro-1,1,2,2-

tetrahydrooctyltriethoxysilane homopolymer 155968-09-5P,

Propyltrimethoxysilane homopolymer, ladder sru 161565-76-0P

162477-44-3P

(organically modified **ceramics** for **coating**
textile materials)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:840460 HCAPLUS

DOCUMENT NUMBER: 135:373086

TITLE: Low-reflective hard coating compositions with
good scratch resistance for coating
plastic moldings as optical parts

INVENTOR(S): Inaba, Yoshiki; Yoshihara, Toshiaki; Ohata,
Koichi

PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001316604	A2	20011116	JP 2000-131732	2000 0428
PRIORITY APPLN. INFO.:			JP 2000-131732	2000 0428

OTHER SOURCE(S): MARPAT 135:373086

AB The composition comprises (A) a mixture of hydrolyzates of a perfluoroalkyl-containing silane and a (meth)acrylic-functional silane, and metal oxide microparticles and (B) a multifunctional (meth)acrylate. Thus, 1.6 parts mixture of hydrolyzate of 70/30 tridecafluorooctyltrimethoxysilane and 3-acryloyloxypropyltrimethoxysilane and IPA ST (colloidal silica) was blended with dipentaerythritol hexaacrylate 20, pentaerythritol triacrylate 60, trimethylolpropane triacrylate 20 and Darocure 1173 (initiator) 4 g, coated on a polyester film and cured by UV-irradiation to give a hard coating film showing reflectivity (550 nm) 1.9%, pencil hardness 3H, and good scratch resistance.

IT **373633-35-3P**

(low-reflective hard coating **compns.** with good scratch resistance for **coating plastic** moldings as optical parts)

RN 373633-35-3 HCAPLUS

CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 3-(trimethoxysilyl)propyl 2-propenoate and trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

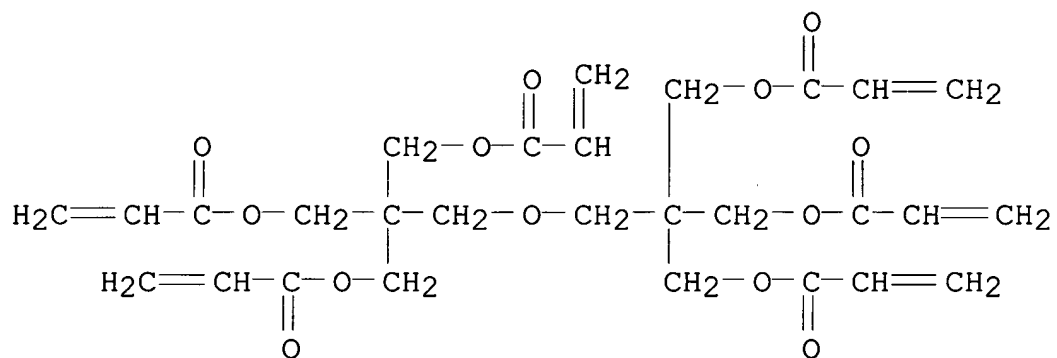
CM 1

CRN 85857-16-5

CMF C11 H13 F13 O3 Si

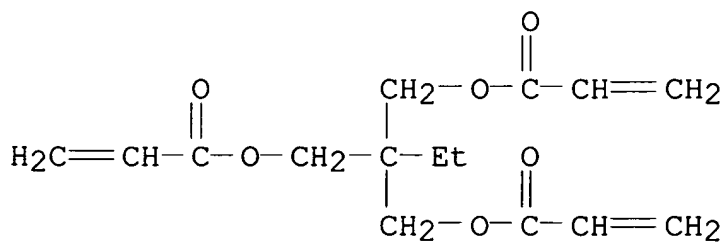


CMF C28 H34 O13



CM 3

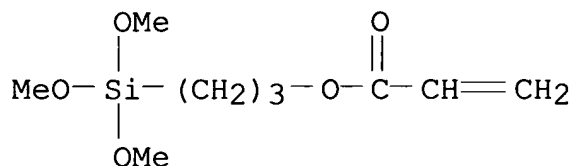
CMF C15 H20 O6



CM 4

CRN 4369-14-6

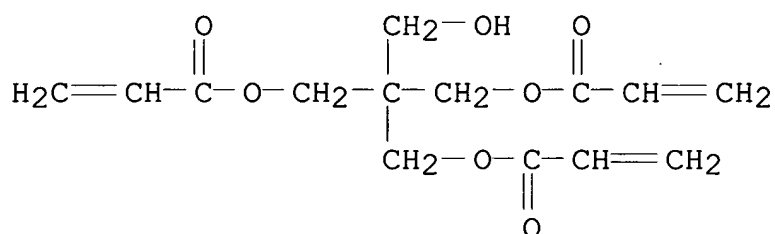
CMF C9 H18 O5 Si



CM 5

CRN 3524-68-3

CMF C14 H18 O7



IC ICM C09D004-06

ICS C08F002-44; C08F002-48; C08F283-12; C08F290-06; G02B001-10;
G02B001-11CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 73

ST perfluoroalkylsilane acrylic silane hydrolyzate silica coating;
silsesquioxane acrylic coating **plastic** optical part;
polyester molding silsesquioxane acrylic coating antireflection;
scratch resistance coated **plastic** molding

IT Silsesquioxanes

(acrylic, fluorine-containing; low-reflective hard coating compns.
with good scratch resistance for coating **plastic**
moldings as optical parts)

IT Fluoropolymers, uses

(acrylic-silsesquioxane-; low-reflective hard coating compns.
with good scratch resistance for coating **plastic**
moldings as optical parts)

IT Antireflective films

Optical materials

(low-reflective hard coating compns. with good scratch
resistance for coating **plastic** moldings as optical
parts)

- IT Coating materials
(scratch-resistant; low-reflective hard coating compns. with good scratch resistance for coating **plastic** moldings as optical parts)
- IT Polyesters, uses
(**substrate**; low-reflective hard coating compns. with good scratch resistance for coating **plastic** moldings as optical parts)
- IT 7631-86-9, IPA-ST, uses
(colloidal; low-reflective hard coating compns. with good scratch resistance for coating **plastic** moldings as optical parts)
- IT 9011-14-7, Poly(methyl methacrylate)
(crosslinked; low-reflective hard coating compns. with good scratch resistance for coating **plastic** moldings as optical parts)
- IT **373633-35-3P**
(low-reflective hard coating **compns.** with good scratch resistance for **coating plastic** moldings as optical parts)
- IT 203665-47-8, MR 2G
(low-reflective hard coating compns. with good scratch resistance for coating **plastic** moldings as optical parts)

L24 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:738390 HCAPLUS
DOCUMENT NUMBER: 135:305277
TITLE: Storage-stable UV-absorbing coating compositions and their cured products
INVENTOR(S): Kawahara, Koji; Shimada, Nobuko; Sakagami, Toshinori
PATENT ASSIGNEE(S): JSR Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. ----- -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001279178	A2	20011010	JP 2000-97558	2000 0331
PRIORITY APPLN. INFO.:			JP 2000-97558	2000

0331

OTHER SOURCE(S): MARPAT 135:305277

AB The compns. giving cured films with good hardness and adhesion to **substrates** coated with them, comprise (A) hydrolyzable organo-silane compds., their hydrolyzates or/and condensation products, or their mixture with hydrolyzable silyl group-containing polymers or fluoropolymers, and (B) silica-surfaced TiO₂ compound-containing metal oxide microparticles or/and sols. Thus, mixing methyltrimethoxysilane 90 with X 40-9225 (OH-terminated silsesquioxane) 10 in water 20 containing Al diisopropoxyethylacetoacetate 10 at 60° for 2 h, adding a 30% MeOH solution of a silica-surfaced TiO₂ 100 and i-BuOH 200 parts and mixing gave a coating with good storage stability. Spin coating the coating on a **glass** panel and baking at 200° for 30 min gave a coated film with pencil hardness 4H, UV absorption rate 98%, surface intrinsic resistance 1.3x10¹⁵ Ω·cm and good transparency.

IT **104888-06-4DP**, Ethyl vinyl ether-hexafluoropropylene-vinyltrimethoxysilane copolymer, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides
284669-39-2DP, Ethyl vinyl ether-hexafluoropropylene-perfluoro(methyl vinyl ether)-vinyltrimethoxysilane copolymer, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides
 (storage-stable UV-absorbing coating **compns.** and cured products)

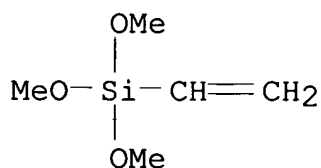
RN 104888-06-4 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

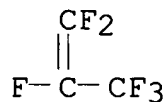
CMF C5 H12 O3 Si



CM 2

CRN 116-15-4

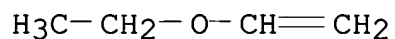
CMF C3 F6



CM 3

CRN 109-92-2

CMF C4 H8 O



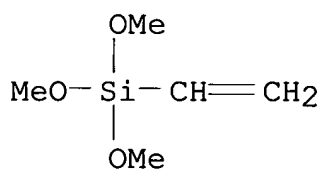
RN 284669-39-2 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene and trifluoro(trifluoromethoxy)et
hene (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

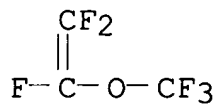
CMF C5 H12 O3 Si



CM 2

CRN 1187-93-5

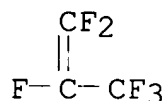
CMF C3 F6 O



CM 3

CRN 116-15-4

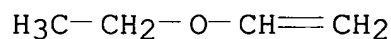
CMF C3 F6



CM 4

CRN 109-92-2

CMF C4 H8 O



IC ICM C09D183-04

ICS C08G077-04

CC 42-10 (**Coatings**, Inks, and Related Products)

IT 78-10-4DP, Tetraethoxysilane, crosslinked with OH-terminated silsesquioxanes or siloxanes, other silane compound, silica-surfaced metal oxides and optionally other silyl group-containing polymers

79-06-1DP, Acrylamide, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

79-10-7DP, Acrylic acid, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

80-62-6DP, Methyl methacrylate, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

106-91-2DP, Glycidyl methacrylate, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

141-32-2DP, Butyl acrylate, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

818-61-1DP, 2-Hydroxyethyl acrylate, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

868-77-9DP, 2-Hydroxyethyl methacrylate, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides

1112-39-6DP, Dimethyldimethoxysilane, crosslinked with OH-terminated silsesquioxanes or siloxanes, other silane compound, silica-surfaced metal oxides and optionally other silyl

group-containing polymers 1185-55-3DP, Methyltrimethoxysilane, crosslinked with OH-terminated silsesquioxanes or siloxanes, other silane compound, silica-surfaced metal oxides and optionally other silyl group-containing polymers 2403-88-5DP, (meth)acrylate derivs., polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides 2530-85-0DP, γ -Methacryloxypropyltrimethoxysilane, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides 12002-26-5DP, MKC Silicate MS 51, crosslinked with OH-terminated silsesquioxanes or siloxanes, other silane compound, silica-surfaced metal oxides and optionally other silyl group-containing polymers 16898-44-5DP, polymers with (meth)acrylates, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides **104888-06-4DP**, Ethyl vinyl ether-hexafluoropropylene-vinyltrimethoxysilane copolymer, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides **284669-39-2DP**, Ethyl vinyl ether-hexafluoropropylene-perfluoro(methyl vinyl ether)-vinyltrimethoxysilane copolymer, crosslinked products with silanes, siloxane compds. and silica-surfaced metal oxides
(storage-stable UV-absorbing coating **compns.** and cured products)

L24 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:554641 HCAPLUS

DOCUMENT NUMBER: 135:141070

TITLE: Manufacture of silica-coated articles without firing, the obtained articles, and coating compositions

INVENTOR(S): Teranishi, Toyoyuki; Kobayashi, Hiroaki; Ogawa, Eishi

PATENT ASSIGNEE(S): Nippon Sheet Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001205187	A2	20010731	JP 2000-21399	

2000
0131

PRIORITY APPLN. INFO.: JP 2000-21399

2000

0131

AB Substrates are coated with a solvent solution containing Si alkoxides
or
their hydrolyzates and then dried to give the coated articles.
The coating and/or the drying process are (partially) carried out
in an acidic or alkaline atmospheric Silica-coated articles having
water

drop contact angle 20-40°, having arithmetic average roughness
(Ra) 0.10-0.5 nm and 10-point average roughness (Rz) 1.0-5.0 nm, or
having functional overcoatings are also claimed. Coating compns.
comprising (1) solvents containing Si alkoxides as monomers or their
hydrolyzates and their polymers of d.p. <20 or (2) 0.01-3 weight% Si
alkoxides or their hydrolyzates and balance alc. are also claimed.
The substrates having the coatings may be glass. Durable coatings
are formed at high productivity.

IT **159412-13-2P**, Heptadecafluorodecyltrimethoxysilane
homopolymer **352229-96-0P**

(water-repellent overcoating; formation of durable silica-based
coatings on **glass** from silicon alkoxides
without firing)

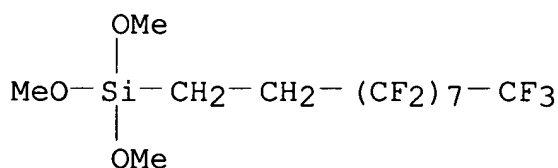
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX
NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



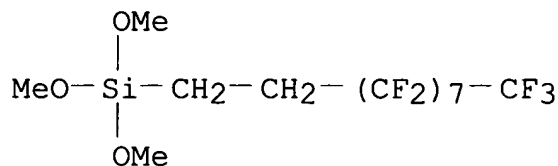
RN 352229-96-0 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl)trimethoxy-, polymer with
 α -methyl- ω -[3-(trimethoxysilyl)propoxy]poly(oxy-1,2-
ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si

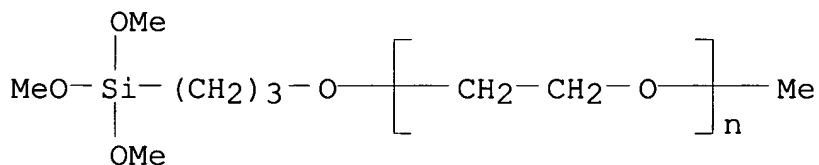


CM 2

CRN 65994-07-2

CMF (C2 H4 O)_n C7 H18 O4 Si

CCI PMS



IC ICM B05D007-24

ICS B05D003-04; B05D007-00

CC 57-1 (Ceramics)

Section cross-reference(s): 42

IT 1825-62-3DP, Trimethylethoxysilane, hydrolyzed 123634-68-4P,

Dodecyltrimethoxysilane polymer 154471-74-6P,

Octadecyltrimethoxysilane homopolymer 156327-81-0P,

n-Octyltriethoxysilane homopolymer 156430-48-7P,

n-Octyltriethoxysilane homopolymer, ladder SRU

159412-13-2P, Heptadecafluorodecyltrimethoxysilane

homopolymer 161045-59-6P 161844-18-4P, n-

Octadecyltrimethoxysilane homopolymer, ladder SRU 171298-41-2P,

Dodecyltrimethoxysilane homopolymer, ladder SRU 279670-87-0P,

Pentyltriethoxysilane homopolymer 285142-07-6P,

Pentyltriethoxysilane homopolymer, ladder SRU 292165-68-5P

352229-96-0P

(water-repellent overcoating; formation of durable silica-based
coatings on glass from silicon alkoxides
 without firing)

L24 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:421051 HCAPLUS

DOCUMENT NUMBER: 135:34427

TITLE: Coating compositions for glasses, and coated glasses
 INVENTOR(S): Kanamori, Taro; Honda, Miwa; Sakagami, Toshinori
 PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001158643	A2	20010612	JP 1999-337692	1999 1129

PRIORITY APPLN. INFO.: JP 1999-337692
 1999
 1129

AB The compns. for giving antistaining, transparent, photocatalytic, and durable coatings, comprise (a) $(R1)_nSi(OR2)_{4-n}$ ($R1 = C1-8$ monovalent organic group; $R2 = C1-5$ alkyl, $C1-6$ acyl; $n = 0-2$), their hydrolyzates, and/or their condensates, (b1) water and/or organic solvents, and (c) photocatalysts. Alternatively, polymers which have (1) silyl groups in which Si is bonded to hydrolyzable groups and/or OH and (2) optionally units shown as $[CR3R4CR5(CnF2n+1)]$ ($R3-5 = CmY2m+1$; $m = 0-5$; $Y = F, H, Cl$) are used instead of b1. When the polymers satisfying (1) are used, the catalysts may be dispersed in aqueous media. The coated glasses have primers using the above compns. without containing the catalysts and topcoats of the above compns. Thus, a glass plate was primed with an aqueous

composition
 containing methyltrimethoxysilane, dimethyldimethoxysilane, iso-Pr alc., ethylene glycol monobutyl ether, and other additives, dried, then coated with a composition containing the primer components and an aqueous

dispersion of anatase-type TiO_2 , dried, and cured to give a transparent coating showing good cross-cut adhesion, pencil hardness 3H, and high resistance to alkalis, organic chems., moisture, weather, water, and soiling.

IT **257868-72-7P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **299465-31-9P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-perfluoro(methyl vinyl ether)-

vinyltrimethoxysilane copolymer **313473-07-3P**

(antistaining, transparent, photocatalytic, and durable
siloxane **coating** compns. for **glasses**)

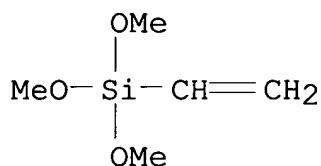
RN 257868-72-7 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane,
ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and
trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

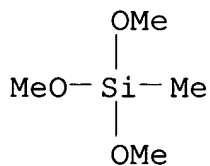
CMF C5 H12 O3 Si



CM 2

CRN 1185-55-3

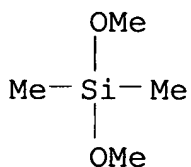
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

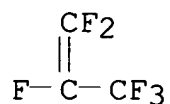
CMF C4 H12 O2 Si



CM 4

CRN 116-15-4

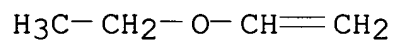
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



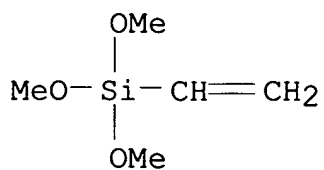
RN 299465-31-9 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, trifluoro(trifluoromethoxy)ethene and trimethoxymethylsilane (9CI)
(CA INDEX NAME)

CM 1

CRN 2768-02-7

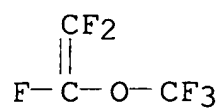
CMF C5 H12 O3 Si



CM 2

CRN 1187-93-5

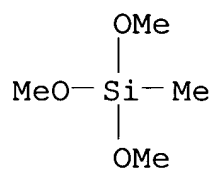
CMF C3 F6 O



CM 3

CRN 1185-55-3

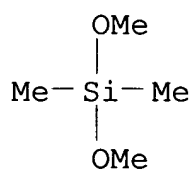
CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6

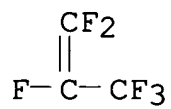
CMF C4 H12 O2 Si



CM 5

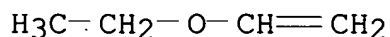
CRN 116-15-4

CMF C3 F6



CM 6

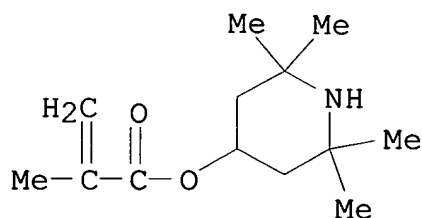
CRN 109-92-2
CMF C4 H8 O



RN 313473-07-3 HCAPLUS
CN Hydrazinium, 1,1,1-trimethyl-2-(2-methyl-1-oxo-2-propenyl)-, inner salt, polymer with butyl 2-propenoate, dimethoxydimethylsilane, ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, 2-propenoic acid, 2,2,6,6-tetramethyl-4-piperidiny 2-methyl-2-propenoate, trifluoro(trifluoromethoxy)ethane, trimethoxymethylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

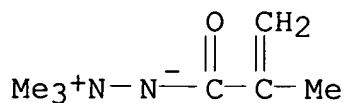
CM 1

CRN 31582-45-3
CMF C13 H23 N O2



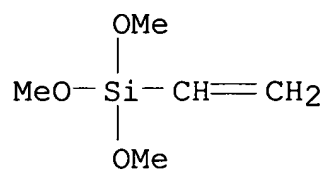
CM 2

CRN 16898-44-5
CMF C7 H14 N2 O



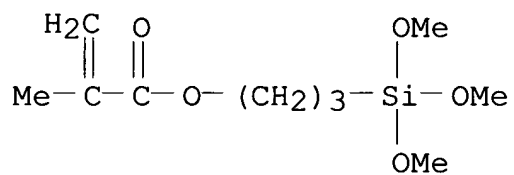
CM 3

CRN 2768-02-7
CMF C5 H12 O3 Si



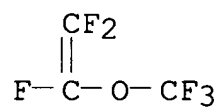
CM 4

CRN 2530-85-0
CMF C10 H20 O5 Si



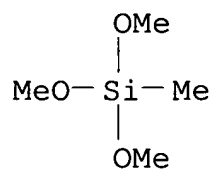
CM 5

CRN 1187-93-5
CMF C3 F6 O



CM 6

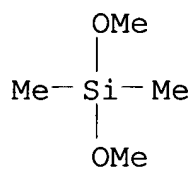
CRN 1185-55-3
CMF C4 H12 O3 Si



CM 7

CRN 1112-39-6

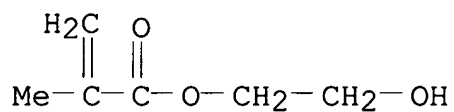
CMF C4 H12 O2 Si



CM 8

CRN 868-77-9

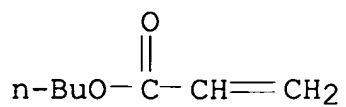
CMF C6 H10 O3



CM 9

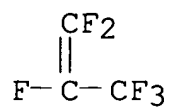
CRN 141-32-2

CMF C7 H12 O2



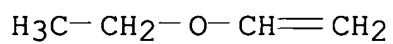
CM 10

CRN 116-15-4
CMF C3 F6



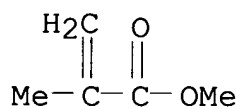
CM 11

CRN 109-92-2
CMF C4 H8 O



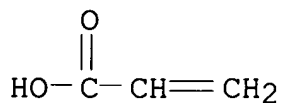
CM 12

CRN 80-62-6
CMF C5 H8 O2



CM 13

CRN 79-10-7
CMF C3 H4 O2



IC ICM C03C017-30
ICS C09D183-04
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 57

IT 1185-55-3DP, Methyltrimethoxysilane, polymers with siloxanes
 141087-43-6P, Methyltrimethoxysilane-tetraethoxysilane copolymer
 149000-95-3P, Dimethyldimethoxysilane-methyltrimethoxysilane
 copolymer 156940-48-6P, Dimethyldimethoxysilane-
 methyltrimethoxysilane-tetraethoxysilane copolymer 173921-14-7P,
 Methyl silicate-methyltrimethoxysilane copolymer
257868-72-7P, Dimethyldimethoxysilane-ethyl vinyl
 ether-hexafluoropropylene-methyltrimethoxysilane-
 vinyltrimethoxysilane copolymer 282716-97-6DP, Acrylic
 acid-butyl acrylate-2-hydroxyethyl methacrylate- γ -
 methacryloxypropyltrimethoxysilane-4-methacryloyloxy-2,2,6,6-
 tetramethylpiperidine-methyl methacrylate-1,1,1-trimethylamine
 methacrylimide copolymer, polymers with methyltrimethoxysilane and
 siloxanes 282716-99-8P, Acrylic acid-butyl acrylate-
 dimethyldimethoxysilane-2-hydroxyethyl methacrylate- γ -
 methacryloxypropyltrimethoxysilane-4-methacryloyloxy-2,2,6,6-
 tetramethylpiperidine-methyl methacrylate-methyltrimethoxysilane-
 1,1,1-trimethylamine methacrylimide copolymer 282717-00-4P,
 Butyl acrylate-dimethyldimethoxysilane-glycidyl
 methacrylate- γ -methacryloxypropyltrimethoxysilane-4-
 methacryloyloxy-2,2,6,6-tetramethylpiperidine-methyl
 methacrylate-methyltrimethoxysilane-1,1,1-trimethylamine
 methacrylimide copolymer 282719-75-9P 282719-76-0P, Butyl
 acrylate-dimethyldimethoxysilane-glycidyl methacrylate- γ -
 methacryloxypropyltrimethoxysilane-4-methacryloyloxy-2,2,6,6-
 tetramethylpiperidine-methyl methacrylate-methyl
 silicate-methyltrimethoxysilane-1,1,1-trimethylamine
 methacrylimide copolymer **299465-31-9P**,
 Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-
 methyltrimethoxysilane-perfluoro(methyl vinyl ether)-
 vinyltrimethoxysilane copolymer 303738-84-3P,
 Dimethyldimethoxysilane-ethyl vinyl ether-methyltrimethoxysilane-
 perfluoro(methyl vinyl ether)-vinyltrimethoxysilane copolymer
313473-07-3P 313473-08-4P
 (antistaining, transparent, photocatalytic, and durable
 siloxane **coating** compns. for **glasses**)

L24 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:260212 HCAPLUS

DOCUMENT NUMBER: 134:282234

TITLE: Coating composition for **plastic**
 surfaces

INVENTOR(S): Roth, Christoph; Kraus, Norbert; Meier, Frank;
 Mueller, Hans-Juerger

PATENT ASSIGNEE(S): FEW Chemicals G.m.b.H. Wolfen, Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 19948088	A1	20010412	DE 1999-19948088	1999 1006

PRIORITY APPLN. INFO.: DE 1999-19948088
 1999
 1006

AB A transparent, colorless, solvent-resistant protective layer for **plastics** is described, which consists of a crosslinking product of (A) 40-80 weight% epoxide group-containing silica sol and

(B) 20-60 weight% maleic acid or maleic anhydride copolymers; 10-60 mol% of the epoxy groups in A are converted with a hydroxyalkylsulfonic acid before mixing of the components.

IT **333773-95-8DP**, reaction products with hydroxypropanesulfonic acid and maleic acid or anhydride copolymers

(barrier **coating composition** for **plastic** containers)

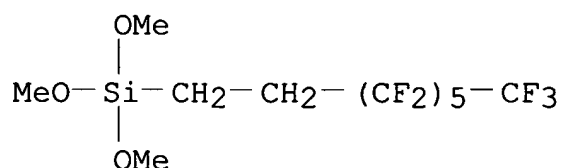
RN 333773-95-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 85857-16-5

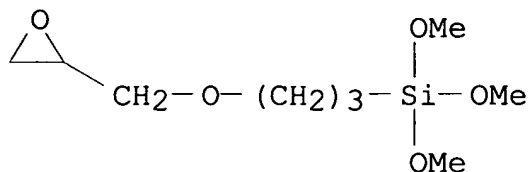
CMF C11 H13 F13 O3 Si



CM 2

CRN 2530-83-8

CMF C9 H20 O5 Si



- IC ICM C09D183-02
ICS C08J007-16
- CC 42-10 (**Coatings**, Inks, and Related Products)
- IT Coating materials
Containers
Fuel tanks
(barrier coating composition for **plastic** containers)
- IT Amines, uses
(tertiary; preparation of barrier coating composition for **plastic** containers)
- IT 2530-83-8DP, (Glycidoxypropyl)trimethoxysilane, reaction products with hydroxypropanesulfonic acid, hydrolyzed, reaction products with maleic acid or anhydride copolymers 9011-13-6DP, Maleic anhydride-styrene copolymer, reaction products with modified silica sols 15909-83-8DP, reaction products with (glycidyloxypropyl)trialkoxysilanes, hydrolyzed, reaction products with maleic acid or anhydride copolymers 25153-40-6DP, Maleic acid-methyl vinyl ether copolymer, reaction products with modified silica sols 25300-64-5DP, Maleic acid-styrene copolymer, reaction products with modified silica sols 162281-03-0DP, (Glycidoxypropyl)triethoxysilane-tetraethoxysilane copolymer, reaction products with hydroxypropanesulfonic acid and maleic acid or anhydride copolymers **333773-95-8DP**, reaction products with hydroxypropanesulfonic acid and maleic acid or anhydride copolymers
(barrier **coating composition** for **plastic** containers)
- IT 9002-88-4, Polyethylene
(high-d., **substrate**; barrier coating composition for **plastic** containers)

L24 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:107958 HCAPLUS

DOCUMENT NUMBER: 134:164577

TITLE: Fluorine-containing polysiloxane water- and oil-repellent coating compositions with good resistance to snow accretion and icing

INVENTOR(S): Shimada, Nobuko; Sakagami, Toshinori

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2001040338	A2	20010213	JP 1999-214264	1999 0728

PRIORITY APPLN. INFO.: JP 1999-214264
 1999
 0728

AB The compns. also having good resistance to weather, soiling and chems. and good adhesion to different kinds of **substrate** materials, e.g., **glass**, aluminum panels and **plastics**, comprise: (A) an organosilyl compound, its hydrolytic and condensation products, and (B) a polymer formed from F-containing polymerizable monomers, ethers or/and OH- or/and silyl-containing polymerizable monomers. Thus, polymerizing hexafluoropropylene 20, perfluoro(Me vinyl ether) 45, Et vinyl ether 30 and vinyltrimethoxysilane 5 parts in the presence of lauroyl peroxide gave a B, 50 parts of which was mixed with 70 parts methyltrimethoxysilane and 30 parts dimethyldimethoxysilane to give a title composition showing good claimed properties after being coated (some examples using a primer) on **ceramic substrates** and dried.

IT **257868-72-7P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **285991-47-1P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-perfluoro(ethyl vinyl ether)-vinyltrimethoxysilane copolymer **299465-31-9P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-perfluoro(methyl vinyl ether)-vinyltrimethoxysilane copolymer **303738-85-4P**, Acrylic acid-butyl acrylate-dimethyldimethoxysilane-ethyl vinyl ether-2-hydroxyethyl methacrylate-hexafluoropropylene- γ -methacryloxypropyltrimethoxysilane-methyl methacrylate-methyltrimethoxysilane-perfluoro(ethyl vinyl ether)-1,1,1-trimethylamine methacrylamide-vinyltrimethoxysilane copolymer (fluorine-containing polysiloxane water- and oil-repellent coating

compns. with good resistance to snow accretion and icing)

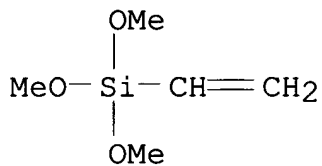
RN 257868-72-7 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

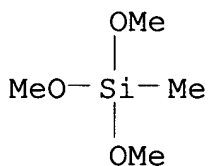
CMF C5 H12 O3 Si



CM 2

CRN 1185-55-3

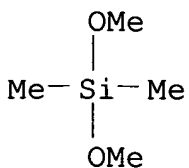
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

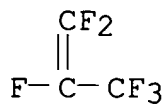
CMF C4 H12 O2 Si



CM 4

CRN 116-15-4

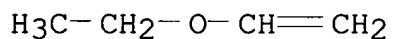
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



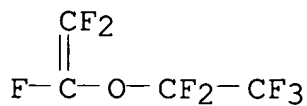
RN 285991-47-1 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, trifluoro(pentafluoroethoxy)ethene and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 10493-43-3

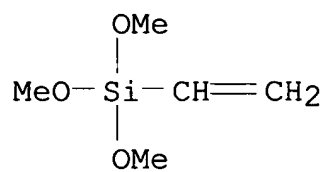
CMF C4 F8 O



CM 2

CRN 2768-02-7

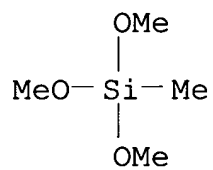
CMF C5 H12 O3 Si



CM 3

CRN 1185-55-3

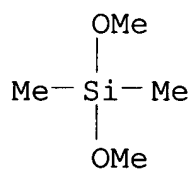
CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6

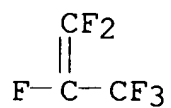
CMF C4 H12 O2 Si



CM 5

CRN 116-15-4

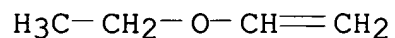
CMF C3 F6



CM 6

CRN 109-92-2

CMF C4 H8 O



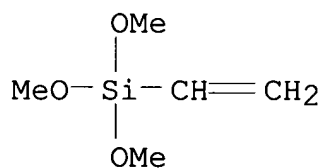
RN 299465-31-9 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, trifluoro(trifluoromethoxy)ethene and trimethoxymethylsilane (9CI)
(CA INDEX NAME)

CM 1

CRN 2768-02-7

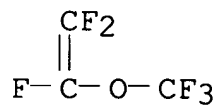
CMF C5 H12 O3 Si



CM 2

CRN 1187-93-5

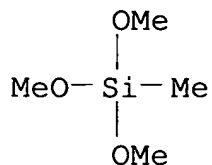
CMF C3 F6 O



CM 3

CRN 1185-55-3

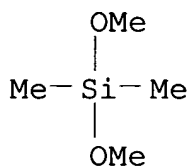
CMF C4 H12 O3 Si



CM 4

CRN 1112-39-6

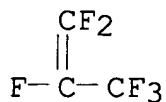
CMF C4 H12 O2 Si



CM 5

CRN 116-15-4

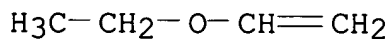
CMF C3 F6



CM 6

CRN 109-92-2

CMF C4 H8 O



RN 303738-85-4 HCAPLUS

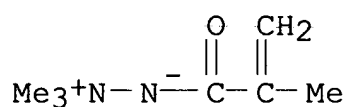
CN Hydrazinium, 1,1,1-trimethyl-2-(2-methyl-1-oxo-2-propenyl)-, inner salt, polymer with butyl 2-propenoate, dimethoxydimethylsilane, ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, 2-hydroxyethyl 2-methyl-2-propenoate, methyl

2-methyl-2-propenoate, 2-propenoic acid,
 trifluoro(pentafluoroethoxy)ethene, trimethoxymethylsilane and
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 16898-44-5

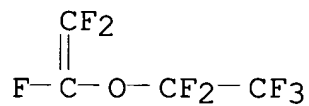
CMF C7 H14 N2 O



CM 2

CRN 10493-43-3

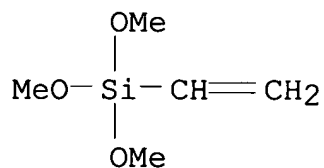
CMF C4 F8 O



CM 3

CRN 2768-02-7

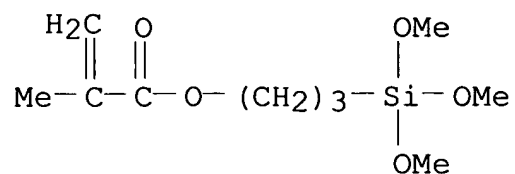
CMF C5 H12 O3 Si



CM 4

CRN 2530-85-0

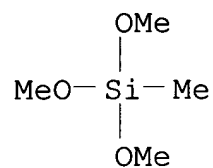
CMF C10 H20 O5 Si



CM 5

CRN 1185-55-3

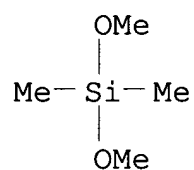
CMF C4 H12 O3 Si



CM 6

CRN 1112-39-6

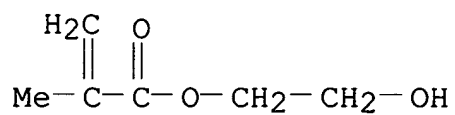
CMF C4 H12 O2 Si



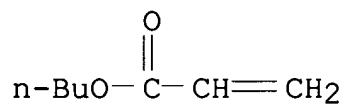
CM 7

CRN 868-77-9

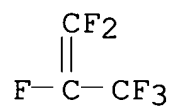
CMF C6 H10 O3



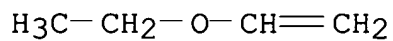
CM 8

CRN 141-32-2
CMF C7 H12 O2

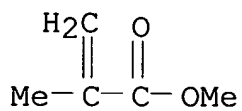
CM 9

CRN 116-15-4
CMF C3 F6

CM 10

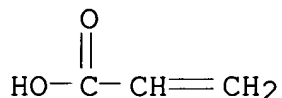
CRN 109-92-2
CMF C4 H8 O

CM 11

CRN 80-62-6
CMF C5 H8 O2

CM 12

CRN 79-10-7
CMF C3 H4 O2



- IC ICM C09K003-18
ICS C09K003-18; C08L083-04; C09D005-00; C09D183-04
- CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 38, 56, 57
- IT Fluoropolymers, miscellaneous
(fiber-reinforced **plastic**-containing **substrate** film; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT Nonwoven fabrics
(of polyesters, **substrate**; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT Acrylic polymers, miscellaneous
Polycarbonates, miscellaneous
(panels, **substrate**; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT **Ceramics**
(**substrate**; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT **Glass**, miscellaneous
(**substrate**; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT 9002-84-0, PTFE
(fiber-reinforced **plastic**-containing **substrate** film; fluorine-containing polysiloxane water- and oil-repellent coating compns. with good resistance to snow accretion and icing)
- IT **257868-72-7P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **285991-47-1P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-perfluoro(ethyl vinyl ether)-vinyltrimethoxysilane copolymer **299465-31-9P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-

methyltrimethoxysilane-perfluoro(methyl vinyl ether)-
vinyltrimethoxysilane copolymer 303738-84-3P,
Dimethyldimethoxysilane-ethyl vinyl ether-methyltrimethoxysilane-
perfluoro(methyl vinyl ether)-vinyltrimethoxysilane copolymer
303738-85-4P, Acrylic acid-butyl acrylate-
dimethyldimethoxysilane-ethyl vinyl ether-2-hydroxyethyl
methacrylate-hexafluoropropylene- γ -
methacryloxypropyltrimethoxysilane-methyl methacrylate-
methyltrimethoxysilane-perfluoro(ethyl vinyl ether)-1,1,1-
trimethylamine methacrylamide-vinyltrimethoxysilane copolymer
(fluorine-containing polysiloxane water- and oil-repellent coating
comps. with good resistance to snow accretion and
icing)

- IT 7429-90-5, Aluminum, miscellaneous
(panels, **substrate**; fluorine-containing polysiloxane
water- and oil-repellent coating comps. with good resistance
to snow accretion and icing)
- IT 9002-88-4, Polyethylene
(**substrate** film; fluorine-containing polysiloxane water-
and oil-repellent coating comps. with good resistance to snow
accretion and icing)

L24 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:67349 HCAPLUS

DOCUMENT NUMBER: 134:117240

TITLE: Water-repellent substrates with highly water
drop-slipping ability and their manufacture
INVENTOR(S): Akamatsu, Yoshinori; Hamaguchi, Shigeo; Arai,
Hiroaki

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2001025702	A2	20010130	JP 1999-52	1999 0714

PRIORITY APPLN. INFO.: JP 1999-52

1999
0714

AB Title substrates are coated with solvent-diluted solns. containing

reaction products of perfluoroalkyltrichlorosilanes
 $\text{CF}_3(\text{CF}_2)_m(\text{CH}_2)_2\text{SiCl}_3$ ($m = 5-10$) and polydimethylsilicone diol (I).
 A I-containing EtOAc solution was dropwise stirred with TSL 8232 for

6 h,

diluted with iso-PrOH, coated on a cleaned glass, and baked at
 150° for 5 min to form a surface with good water-slipping
 ability (30° inclination, 13 μL) and water-contact angle
 of 100° initially and 98° after UV irradiation for 2 h
 or rubbing with canvas cloth at 30 cycles/min and 0.1-kg/cm² load
 for 3,500 times.

IT **321208-32-6P**, Dimethylsilanediol-TSL 8232 copolymer
 (fluoroalkylchlorosilane-polyimethylsilicone diol
 copolymer-based **coatings** for **glass** for high
 water drop slipping ability)

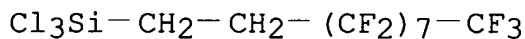
RN 321208-32-6 HCAPLUS

CN Silanediol, dimethyl-, polymer with trichloro(3,3,4,4,5,5,6,6,7,7,
 8,8,9,9,10,10,10-heptafluorodecyl)silane (9CI) (CA INDEX
 NAME)

CM 1

CRN 78560-44-8

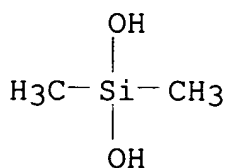
CMF C10 H4 Cl3 F17 Si



CM 2

CRN 1066-42-8

CMF C2 H8 O2 Si



IC ICM B05D005-00

ICS B60S001-02; C03C017-30; C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT **321208-32-6P**, Dimethylsilanediol-TSL 8232 copolymer
 (fluoroalkylchlorosilane-polyimethylsilicone diol)

copolymer-based **coatings** for **glass** for high water drop slipping ability)

L24 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:887747 HCAPLUS

DOCUMENT NUMBER: 134:43483

TITLE: Silsesquioxane-based water-repellent coatings showing good weather and abrasion resistance and coated products therewith

INVENTOR(S): Yamamoto, Hiroaki; Kamiya, Kazutaka; Teranishi, Toyoyuki; Asai, Mitsuo

PATENT ASSIGNEE(S): Nippon Sheet Glass Co., Ltd., Japan; Shin-Etsu Chemical Industry Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2000351938	A2	20001219	JP 1999-164923	1999 0611

PRIORITY APPLN. INFO.: JP 1999-164923

1999

0611

AB The coatings, providing dense coating films with excellent surface smoothness, comprise alcs.-dissolving alkoxysilanes, fluoroalkyl-containing silanes, and acids satisfying acid/water (weight ratio) ≥ 0.58 . The acids are formed by dissolving hydrogen halides in the alcs. Thus, 1.2 g Si(OEt)₄ and 0.02 g heptadecafluorodecyltrimethoxysilane were added to HCl-dissolved EtOH with water to give a coating (HCl/water weight ratio 3.8), which was applied on a **glass substrate** and dried at room temperature to give a water-repellent **glass** showing water contact angle 109° initially, 92° after 400-h accelerated weathering test, and 101° after 5000-time rubbing, resp.

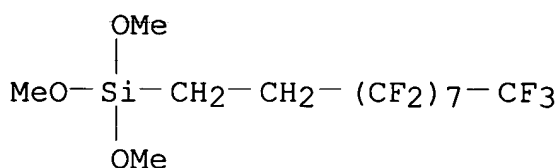
IT **163004-18-0P**, Heptadecafluorodecyltrimethoxysilane-tetraethoxysilane copolymer

(acid-rich F-containing silsesquioxane **compns.** for water-repellent coatings with good weather and abrasion resistance)

RN 163004-18-0 HCAPLUS
 CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with
 (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
 heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

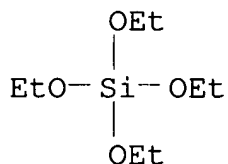
CM 1

CRN 83048-65-1
 CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4
 CMF C8 H20 O4 Si



IC ICM C09D183-02
 ICS B05D007-00; C03C017-30; C09D005-00; C09K003-18
 CC 42-10 (**Coatings**, Inks, and Related Products)
 Section cross-reference(s): 57
 ST water repellent coating acid catalyzed hydrosilylation;
 ethoxysilane fluoorodecylmethoxysilane copolymer water repellent
 coating; fluorine contg silsesquioxane coating abrasion resistant;
 weather resistant silsesquioxane **glass** coating
 IT **Glass**, uses
 (acid-rich F-containing silsesquioxane compns. for water-repellent
 coatings with good weather and abrasion resistance)
 IT **163004-18-0P**, Heptadecafluorodecyltrimethoxysilane-
 tetraethoxysilane copolymer
 (acid-rich F-containing silsesquioxane **compns.** for
 water-repellent coatings with good weather and abrasion
 resistance)

L24 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:822734 HCAPLUS
 DOCUMENT NUMBER: 133:363798
 TITLE: A coating composition, and a coated film and
glass each having a coating layer
 comprised thereof
 INVENTOR(S): Shimada, Mibuko; Sakagami, Toshinori; Shiho,
 Hiroshi; Hashiguchi, Yuichi
 PATENT ASSIGNEE(S): JSR Corporation, Japan
 SOURCE: Eur. Pat. Appl., 37 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 1054047	A2	20001122	EP 2000-110630	2000 0518
EP 1054047	A3	20011010		
EP 1054047	B1	20030326		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000328001	A2	20001128	JP 1999-142428	1999 0521
JP 2001049173	A2	20010220	JP 1999-225915	1999 0810
US 6485838	B1	20021126	US 2000-574070	2000 0518
PRIORITY APPLN. INFO.:			JP 1999-142428	A 1999 0521
			JP 1999-225915	A 1999 0810

AB A coated film and a coated **glass** with improvement in
 resistance to fouling derived from water and oil repellency,
 durability, abrasion resistance, and the exfoliation of stacked
 outer layer provided by a specific coating composition comprises

≥ 1 component selected from a hydrolyzate or partial condensate, or both of an organosilane compound represented by the formula $(R_1)_nSi(OR)_{4-n}$ wherein R_1 = monovalent organic group having C1-8, R_2 = an alkyl group having C1-5 or an acyl group having C1-6 and $n = 0-2$, and a component containing a silyl group wherein one of silicon atoms bonded with a hydrolytic group and/or a hydroxy group. Thus, a coating composition was prepared from methyltrimethoxysilane 70, polymer containing monomers hexafluoropropylene, vinyltrimethoxysilane and Et vinyl ether 30, Al Et acetoacetate diisopropoxide 5.0, H₂O 10, Me Et ketone 100, iso-Pr alc. 40, and acetylacetone 1.0 parts by heating at 60° for 5 h.

IT **104888-06-4P**, Ethyl vinyl ether-hexafluoropropylene-vinyltrimethoxysilane copolymer **257868-72-7P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **257868-74-9P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **284669-39-2P**, Ethyl vinyl ether-hexafluoropropylene-perfluoromethyl vinyl ether-vinyltrimethoxysilane copolymer **307530-46-7P**, Ethyl vinyl ether-hexafluoropropylene-perfluoromethyl vinyl ether-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-48-9P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-phenyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-49-0P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane- γ -methacryloxypropyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-50-3P**, Ethyl vinyl ether-hexafluoropropylene-glycidoxypropyltrimethoxysilane-methyltrimethoxysilane-vinyltrimethoxysilane copolymer (coating **composition** containing polysiloxanes and vinyl polymers having good soilproofing and abrasion resistance)

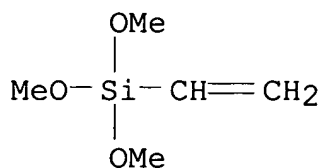
RN 104888-06-4 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

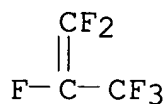
CMF C5 H12 O3 Si



CM 2

CRN 116-15-4

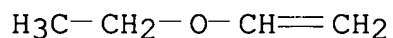
CMF C3 F6



CM 3

CRN 109-92-2

CMF C4 H8 O



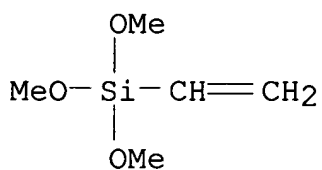
RN 257868-72-7 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with ethenyltrimethoxysilane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

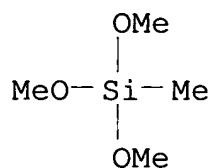
CMF C5 H12 O3 Si



CM 2

CRN 1185-55-3

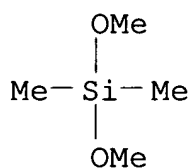
CMF C4 H12 O3 Si



CM 3

CRN 1112-39-6

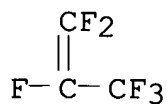
CMF C4 H12 O2 Si



CM 4

CRN 116-15-4

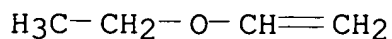
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



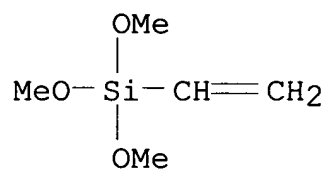
RN 257868-74-9 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI)
(CA INDEX NAME)

CM 1

CRN 2768-02-7

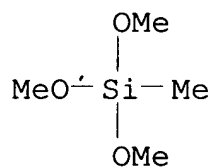
CMF C5 H12 O3 Si



CM 2

CRN 1185-55-3

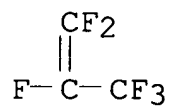
CMF C4 H12 O3 Si



CM 3

CRN 116-15-4

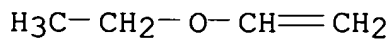
CMF C3 F6



CM 4

CRN 109-92-2

CMF C4 H8 O



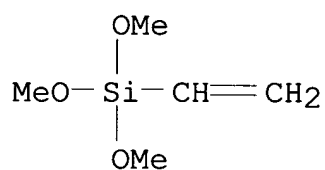
RN 284669-39-2 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene and trifluoro(trifluoromethoxy)et
hene (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

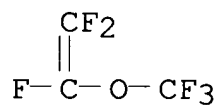
CMF C5 H12 O3 Si



CM 2

CRN 1187-93-5

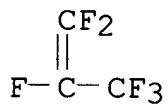
CMF C3 F6 O



CM 3

CRN 116-15-4

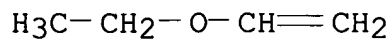
CMF C3 F6



CM 4

CRN 109-92-2

CMF C4 H8 O



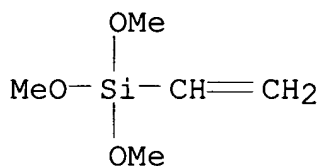
RN 307530-46-7 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene, trifluoro(trifluoromethoxy)ethen
e and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

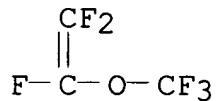
CMF C5 H12 O3 Si



CM 2

CRN 1187-93-5

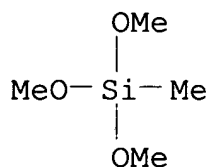
CMF C3 F6 O



CM 3

CRN 1185-55-3

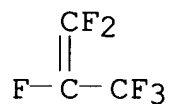
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

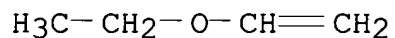
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



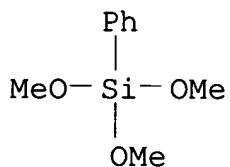
RN 307530-48-9 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene, trimethoxymethylsilane and
trimethoxyphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

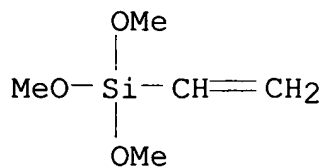
CMF C9 H14 O3 Si



CM 2

CRN 2768-02-7

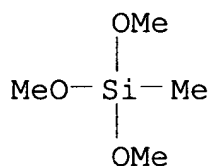
CMF C5 H12 O3 Si



CM 3

CRN 1185-55-3

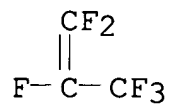
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

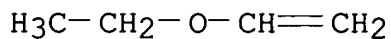
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



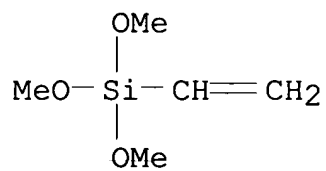
RN 307530-49-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with ethenyltrimethoxysilane, ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI)
(CA INDEX NAME)

CM 1

CRN 2768-02-7

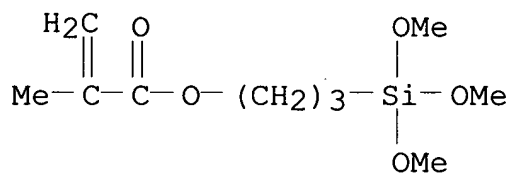
CMF C5 H12 O3 Si



CM 2

CRN 2530-85-0

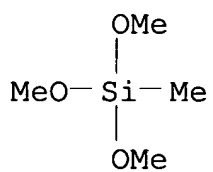
CMF C10 H20 O5 Si



CM 3

CRN 1185-55-3

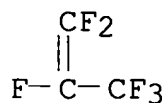
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

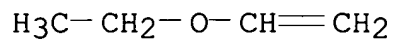
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



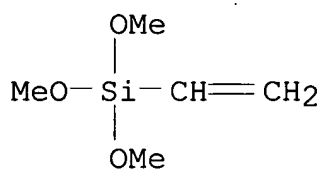
RN 307530-50-3 HCAPLUS

CN Silane, ethenyltrimethoxy-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene, trimethoxymethylsilane and
trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 2768-02-7

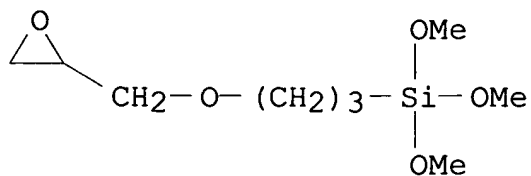
CMF C5 H12 O3 Si



CM 2

CRN 2530-83-8

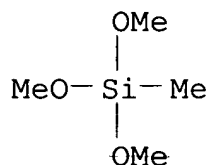
CMF C9 H20 O5 Si



CM 3

CRN 1185-55-3

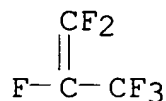
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

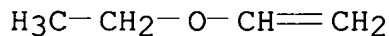
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



IC ICM C09D183-04

CC 42-5 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 57

ST polysiloxane vinyl polymer coating **glass**; soilproofing
 abrasion resistance coating; methyltrimethoxysilane vinyl monomer
 coating

IT **Glass**, uses

(**substrate**; coating composition containing polysiloxanes and
 vinyl polymers having good soilproofing and abrasion
 resistance)

IT **104888-06-4P**, Ethyl vinyl ether-hexafluoropropylene-
 vinyltrimethoxysilane copolymer 141087-43-6P,

Methyltrimethoxysilane-tetraethoxysilane copolymer 175466-47-4P, Acrylic acid-butyl acrylate-2-hydroxyethyl methacrylate- γ -methacryloxypropyltrimethoxysilane-methyl methacrylate copolymer **257868-72-7P**, Dimethyldimethoxysilane-ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **257868-74-9P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **284669-39-2P**, Ethyl vinyl ether-hexafluoropropylene-perfluoromethyl vinyl ether-vinyltrimethoxysilane copolymer 284669-46-1P, Ethyl vinyl ether-perfluoro methyl vinyl ether-vinyltrimethoxysilane copolymer 307530-45-6P, Ethyl vinyl ether-perfluoromethyl vinyl ether-methyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-46-7P**, Ethyl vinyl ether-hexafluoropropylene-perfluoromethyl vinyl ether-methyltrimethoxysilane-vinyltrimethoxysilane copolymer 307530-47-8P, Acrylic acid-butyl acrylate-2-hydroxyethyl methacrylate- γ -methacryloxypropyltrimethoxysilane-methyl methacrylate-methyltrimethoxysilane copolymer **307530-48-9P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane-phenyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-49-0P**, Ethyl vinyl ether-hexafluoropropylene-methyltrimethoxysilane- γ -methacryloxypropyltrimethoxysilane-vinyltrimethoxysilane copolymer **307530-50-3P**, Ethyl vinyl ether-hexafluoropropylene-glycidoxypropyltrimethoxysilane-methyltrimethoxysilane-vinyltrimethoxysilane copolymer 307530-51-4P, Acrylic acid-butyl acrylate-dimethyldimethoxysilane-2-hydroxyethyl methacrylate- γ -methacryloxypropyltrimethoxysilane-methyl methacrylate-methyltrimethoxysilane copolymer 307530-52-5P, Acrylic acid-butyl acrylate-2-hydroxyethyl methacrylate-glycidoxypropyltrimethoxysilane- γ -methacryloxypropyltrimethoxysilane-methyl methacrylate-methyltrimethoxysilane copolymer

(coating **composition** containing polysiloxanes and vinyl polymers having good soilproofing and abrasion resistance)

L24 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:551980 HCAPLUS

DOCUMENT NUMBER: 133:165213

TITLE: Aqueous compositions of fluorosilanes and/or fluorosiloxanes for manufacture of coatings with improved adhesion to polar surfaces

INVENTOR(S): Jenkner, Peter; Edelmann, Roland; Frings, Albert-johannes; Horn, Michael; Laven, Ralf; Mack, Helmut; Monkiewicz, Jaroslaw; Standke, Burkhard

PATENT ASSIGNEE(S): Degussa-Huels A.-G., Germany

SOURCE: Ger. Offen., 10 pp.

DOCUMENT TYPE: CODEN: GWXXBX
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: German
 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 19904132	A1	20000810	DE 1999-19904132	1999 0203
DE 19904132	C2	20021128		
EP 1033395	A2	20000906	EP 1999-124544	1999 1209
EP 1033395	A3	20010425		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000239283	A2	20000905	JP 2000-24202	2000 0201
US 6361871	B1	20020326	US 2000-495312	2000 0201
PRIORITY APPLN. INFO.:			DE 1999-19904132	A 1999 0203

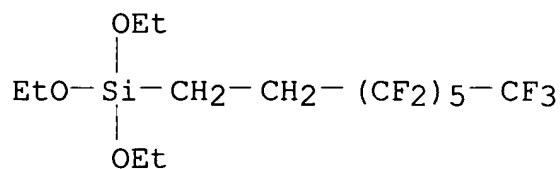
AB Aqueous compns. of fluorosilanes and(or) fluorosiloxanes having hydrolyzable groups on silanol groups contain ≥ 1 e mineral acid and ≥ 1 salt of Al^{3+} , Sn^{2+} , Sn^{4+} , Fe^{3+} , or Ti^{3+} . A typical composition contained Dynasylan F 8261 (3,3,4,4,5,5,6,6,7,7,8,8-tridecafluorooctyltriethoxysilane) 5, HCl (37%) 1, water 5, EtOH 488.4, $SnCl_2 \cdot H_2O$ 0.6 g.

IT **150600-19-4P**
 (aqueous **compns.** of fluorosilanes and/or fluorosiloxanes for manufacture of coatings with improved adhesion to polar surfaces)
 RN 150600-19-4 HCAPLUS
 CN Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 51851-37-7

CMF C14 H19 F13 O3 Si



- IC ICM C07F007-08
ICS C07F007-18; C09C003-12; C08L083-08
- CC 42-5 (**Coatings**, Inks, and Related Products)
- ST fluorosiloxane coating adhesion improver polar **substrate**
; titanium salt adhesion improver fluorosiloxane coating polar **substrate**; iron salt adhesion improver fluorosiloxane coating polar **substrate**; tin salt adhesion improver fluorosiloxane coating polar **substrate**; aluminum salt adhesion improver fluorosiloxane coating polar **substrate**
; hydrochloric acid adhesion improver fluorosiloxane coating polar **substrate**; mineral acid adhesion improver fluorosiloxane coating polar **substrate**
- IT **Ceramics**
Concrete
Enamels (vitreous)
Fillers
Pigments, nonbiological
Porcelain
Wood
(**substrate**; aqueous compns. of fluorosilanes and/or fluorosiloxanes for manufacture of coatings with improved adhesion to polar surfaces)
- IT Asphalt
Glass substitutes
Marble
Metals, miscellaneous
Natural fibers
Oxides (inorganic), miscellaneous
Plastics, miscellaneous
Plate **glass**
Stone, artificial
Stone (construction material)
(**substrate**; aqueous compns. of fluorosilanes and/or fluorosiloxanes for manufacture of coatings with improved adhesion to polar surfaces)
- IT **150600-19-4P**
(aqueous **compns.** of fluorosilanes and/or fluorosiloxanes for manufacture of coatings with improved adhesion to polar surfaces)

IT 9003-53-6, Polystyrene
(**substrate**; aqueous compns. of fluorosilanes and/or
fluorosiloxanes for manufacture of coatings with improved adhesion
to polar surfaces)

L24 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:542412 HCAPLUS
DOCUMENT NUMBER: 133:165234
TITLE: Readily working water-repellent coating
compositions, their manufacture and coated
articles
INVENTOR(S): Yamamoto, Hiroaki; Kamitani, Kazutaka;
Teranishi, Toyoyuki
PATENT ASSIGNEE(S): Nippon Sheet Glass Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000219875	A2	20000808	JP 1999-24463	1999 0201

PRIORITY APPLN. INFO.: JP 1999-24463

1999
0201

AB The coating compns. useful for **glass, ceramic, plastic**, etc., without the needs of rubbing after application, are obtained from a mixture of (A) fluoroalkyl group-containing silanes 0.00005-0.005% (as silica), (B) acids 0.001-3 N, (C) water 0-20% and (D) C₄ linear saturated alcs. as the balance. Thus, mixing EtOH 100 with heptadecafluorodecyltrimethoxysilane (I) 0.02 for 30 min, adding concentrate HCl 2 while stirring and

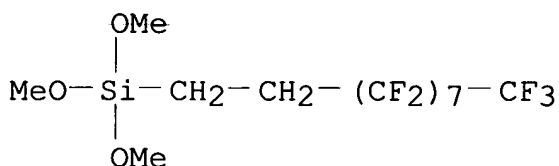
mixing gave a water-repellent composition which was flow coated on a vertical **glass** surface at room temperature and 30% humidity to form a wet film in .apprx.45 s which contained .apprx.0.9 mg-I (silica conversion)/m² and became clear after .apprx.1 min.

IT **159412-13-2P 160190-21-6P 163004-18-0P**
219143-81-4P
, Heptadecafluorodecyltrimethoxysilane-tetraethoxysilane copolymer
(readily working water-repellent coating **compns.**,
manufacture and coated articles)

RN 159412-13-2 HCAPLUS
CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

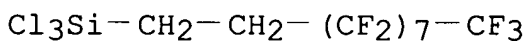
CRN 83048-65-1
CMF C13 H13 F17 O3 Si



RN 160190-21-6 HCAPLUS
CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-, homopolymer, hydrolytic (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8
CMF C10 H4 Cl3 F17 Si



CM 2

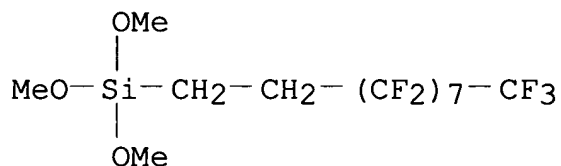
CRN 7732-18-5
CMF H2 O

H₂O

RN 163004-18-0 HCAPLUS
CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

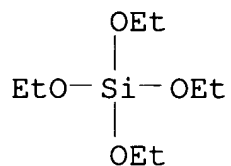
CM 1

CRN 83048-65-1
CMF C13 H13 F17 O3 Si



CM 2

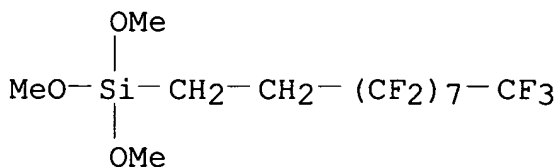
CRN 78-10-4
CMF C8 H20 O4 Si



RN 219143-81-4 HCAPLUS
CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxy-, polymer with tetrachlorosilane (9CI) (CA INDEX NAME)

CM 1

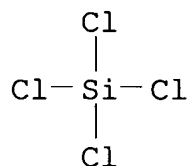
CRN 83048-65-1
CMF C13 H13 F17 O3 Si



CM 2

CRN 10026-04-7

CMF Cl4 Si



IC ICM C09K003-18
ICS B05D007-24; C07F007-12; C07F007-18
CC 42-10 (**Coatings**, Inks, and Related Products)
ST water repellent coating fluoroalkylsilane hydrolytic polymer;
glass water repellent coating fluoroalkylsilane hydrolytic
polymer
IT **Plastics**, miscellaneous
(readily working water-repellent coating compns., manufacture and
coated articles)
IT **Ceramics**
(**substrate**; readily working water-repellent coating
compns., manufacture and coated articles)
IT **Glass**, miscellaneous
(**substrate**; readily working water-repellent coating
compns., manufacture and coated articles)
IT **159412-13-2P 160190-21-6P** 161045-59-6P
163004-18-0P, Heptadecafluorodecyltrimethoxysilane-
tetraethoxysilane copolymer **219143-81-4P**
(readily working water-repellent coating **compns.**,
manufacture and coated articles)

L24 ANSWER 33 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:302273 HCAPLUS
DOCUMENT NUMBER: 132:309811
TITLE: Water-repellent siloxane composition for
surface treatment
INVENTOR(S): Yoneda, Takashige; Furukawa, Yutaka; Torimoto,
Tomoko; Koderu, Masami
PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	

JP 2000129247

A2

20000509

JP 1998-308980

1998

1029

PRIORITY APPLN. INFO.:

JP 1998-308980

1998

1029

AB A surface-treating composition for rendering the surface of a **substrate**, such as **glass**, with water-repellency comprises hydrolyzable silane compound $[R_1R_2R_3SiO(R_4R_5SiO)_m]_3SiQ_1SiX_1X_2X_3$ (R_1-5 = monovalent organic group; Q_1 = bivalent organic group; X_1-3 = hydrolyzable group, isocyanate; $m > 0$) and/or the partially hydrolyzed products of the silane. The composition may also contain

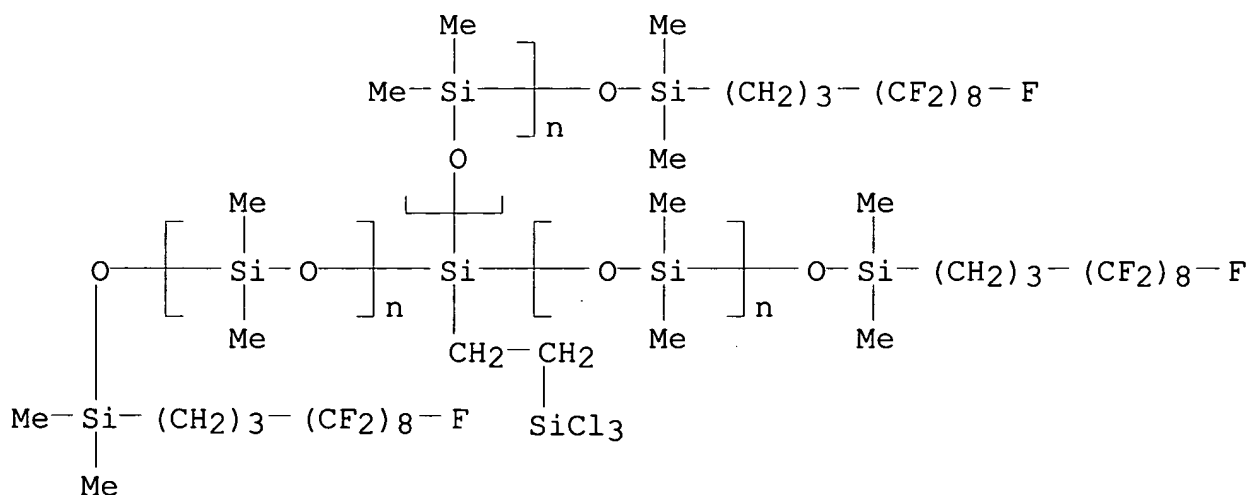
an

organic solvent.

IT **265130-54-9P 265130-57-2P**(water-repellent siloxane **composition** for surface treatment)

RN 265130-54-9 HCAPLUS

CN Poly[oxy(dimethylsilylene)], $\alpha, \alpha', \alpha''$ -[[2-(trichlorosilyl)ethyl]silylidyne]tris[ω -[[4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoroundecyl)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



RN 265130-57-2 HCAPLUS

CN Poly[oxy(dimethylsilylene)], $\alpha, \alpha', \alpha''$ -[[2-(triethoxysilyl)ethyl]silylidyne]tris[ω -[(trimethylsilyl)oxy]-, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX

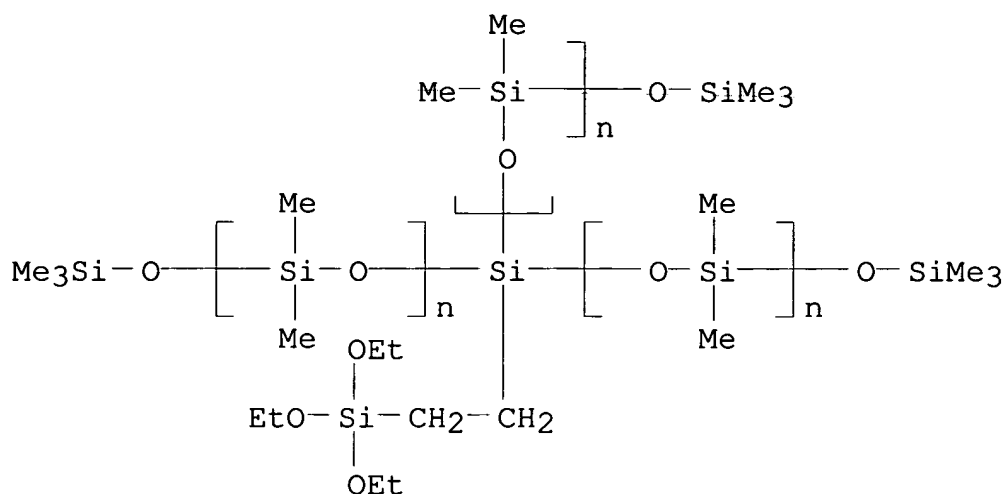
NAME)

CM 1

CRN 265130-55-0

CMF (C2 H6 O Si)_n (C2 H6 O Si)_n (C2 H6 O Si)_n C17 H46 O6 Si5

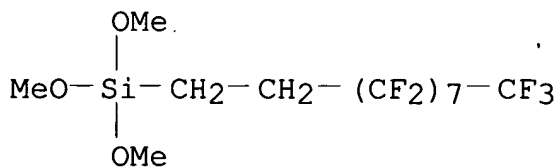
CCI PMS



CM 2

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IC ICM C09K003-18

CC 42-10 (**Coatings**, Inks, and Related Products)IT 7291-09-0DP, Vinylsilane, dimethylsiloxane derivs., reaction products with trichlorosilane 265130-52-7P **265130-54-9P**265130-55-0P 265130-56-1P **265130-57-2P**(water-repellent siloxane **composition** for surface treatment)

L24 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:244721 HCAPLUS

DOCUMENT NUMBER: 130:298063

TITLE: Hydrophobic coating for glass sheets and glass substitutes, its preparation, and substrates coated therewith

INVENTOR(S): Azzopardi, Marie-Jose; Delattre, Laurent; Codazzi, Nathalie

PATENT ASSIGNEE(S): Saint-Gobain Vitrage, Fr.

SOURCE: PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
WO 9918168	A1	19990415	WO 1998-FR2123	1998 1006
W: BR, JP, KR, MX, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2769318	A1	19990409	FR 1997-12410	1997 1006
FR 2769318	B1	19991210		
EP 944687	A1	19990929	EP 1998-947602	1998 1006
EP 944687	B1	20040929		
R: BE, DE, ES, GB, IT, LU, NL, SE				
BR 9806301	A	20000314	BR 1998-6301	1998 1006
JP 2001508120	T2	20010619	JP 1999-521142	1998 1006
US 6340502	B1	20020122	US 1999-319238	1999 0908
PRIORITY APPLN. INFO.:			FR 1997-12410	A 1997 1006
			WO 1998-FR2123	W

1998

1006

OTHER SOURCE(S): MARPAT 130:298063

AB A hydrophobic/oil-repellent coating composition contains ≥ 1 alkoxy silane and ≥ 1 halosilane, each having, at at least one end of their mol., a perfluorinated group. Thus, a glass sheet precleaned with a 20% Ce oxide solution, primed with $\text{Si}(\text{OMe})_4$, and coated with a solution of 1.25% $\text{CF}_3(\text{CF}_2)_7(\text{CH}_2)_2\text{SiCl}_3$ and 1.25% $\text{CF}_3(\text{CF}_2)_7(\text{CH}_2)_2\text{Si}(\text{OEt})_3$ in Fluorinert FC 77 (perfluorinated solvent) showed water contact angle 109° initially and 81° after 100 cycles of a Taber abrasion test.

IT **223391-28-4P**, Trichloro[2-(perfluorooctyl)ethyl]silane-triethoxy[2-(perfluorooctyl)ethyl]silane copolymer (hydrophobic **coating** for **glass** sheets and glass substitutes)

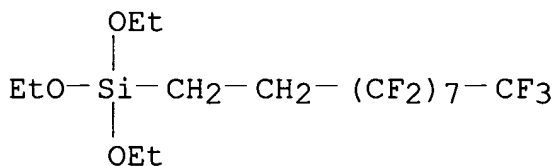
RN 223391-28-4 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, polymer with triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 101947-16-4

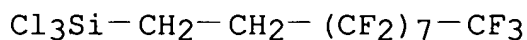
CMF C16 H19 F17 O3 Si



CM 2

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si



IC ICM C09K003-18

ICS C03C017-30; C09D183-08

CC 42-10 (Coatings, Inks, and Related Products)

IT **223391-28-4P**, Trichloro[2-(perfluorooctyl)ethyl]silane-triethoxy[2-(perfluorooctyl)ethyl]silane copolymer
(hydrophobic **coating** for **glass** sheets and glass substitutes)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:225527 HCAPLUS

DOCUMENT NUMBER: 130:285744

TITLE: Water-repellent silica-based glass coatings having high wettability with substrates and their manufacture from alkoxysilanes

INVENTOR(S): Nakagawa, Toru; Soga, Masamori

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 11092175	A2	19990406	JP 1997-246376	1997 0911
JP 3444153	B2	20030908	JP 1997-246376	1997 0911

PRIORITY APPLN. INFO.: JP 1997-246376

AB The title glass coatings contain SiO₂-base fine particles with ≤100 nm diameter, whereas the fine particles are coated with organic mols. having fluorocarbon chains. The coatings are formed by (1) applying solns. containing methoxysilane or ethoxysilane (as SiO₂-based glass precursor), methoxysilane or ethoxysilane having a fluorocarbon chain, acidic catalysts, and fluoroalcs. or fluorocarbon chain-having surfactants on substrates, and (2) drying and firing. Alternatively, SiO₂-based fine particles (diameter ≤100 nm) coated with organic compds. having fluorocarbon chains are used in stead of the fluoroalcs. or the surfactants. The fine particles are prepared by (1) mixing SiO₂-based fine particles, methoxysilane or ethoxysilane having fluorocarbon chains, water, and acidic catalysts, (2) vaporizing

the solvents, water, and the catalysts for removal, and (3) firing the fine particles. By adding the surfactants or the fluoroalcs., surface tension of the coating solns. is decreased or water repellency of the coating solns. is improved.

IT **163004-18-0P**

(formation and firing of; in manufacture of **coatings** on **glasses** by hydrolysis of alkoxysilanes in fluoroalcs. or surfactants)

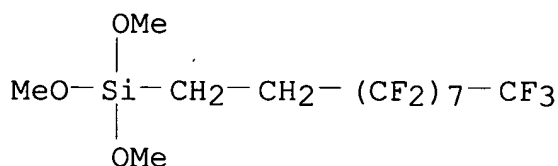
RN 163004-18-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

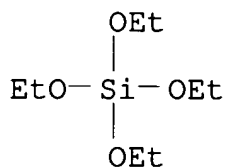
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C03C017-02

ICS B05D007-00; B05D007-24

CC 57-1 (Ceramics)

Section cross-reference(s): 42

IT **163004-18-0P**

(formation and firing of; in manufacture of **coatings** on **glasses** by hydrolysis of alkoxysilanes in fluoroalcs. or surfactants)

L24 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:216981 HCAPLUS

DOCUMENT NUMBER: 130:253772

TITLE: Fluorine-containing siloxane surface treatment compositions with good storage stability and water repellency

INVENTOR(S): Yoneda, Takashige; Gunji, Fumiaki

PATENT ASSIGNEE(S): Asahi Glass Company Ltd., Japan

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9914284	A1	19990325	WO 1998-JP3898	1998 0901
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2303005	AA	19990325	CA 1998-2303005	1998 0901
AU 9888888	A1	19990405	AU 1998-88888	1998 0901
EP 1022323	A1	20000726	EP 1998-940653	1998 0901
EP 1022323	B1	20041124		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9812768	A	20001212	BR 1998-12768	1998 0901
AT 283326	E	20041215	AT 1998-940653	1998

US 6733892

B1

20040511

US 2000-508080

0901

2000
0419

PRIORITY APPLN. INFO.:

JP 1997-249089

A

1997
0912

WO 1998-JP3898

W

1998
0901

AB Title compns., useful for treating **glass** surfaces, comprise as the essential ingredient partial hydrolyzates of a reactive fluorosilane, such as C₈F₁₇CH₂CH₂Si(OCH₃)₃, which have a mol. weight of M as measured by GPC, and in which the content of partial hydrolyzates having a mol. weight in the range of 300-2M is below 70% and that of partial hydrolyzates having a mol. weight in the range of 6M-100,000 is below 10%. A method of surface treatment using the compns. and a **substrate** and an article treated with the compns. are also claimed.

IT **159412-13-2P 221453-24-3P 221453-26-5P**
221453-29-8P

(fluorine-containing siloxane surface treatment **compns.**
with good storage stability and water repellency)

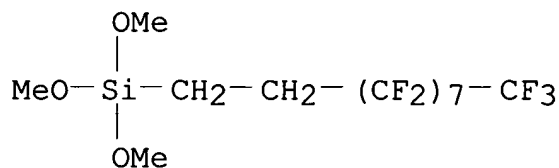
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



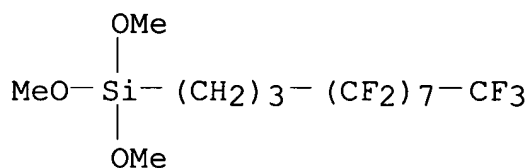
RN 221453-24-3 HCAPLUS

CN Silane, (4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoroundecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 221453-23-2

CMF C14 H15 F17 O3 Si



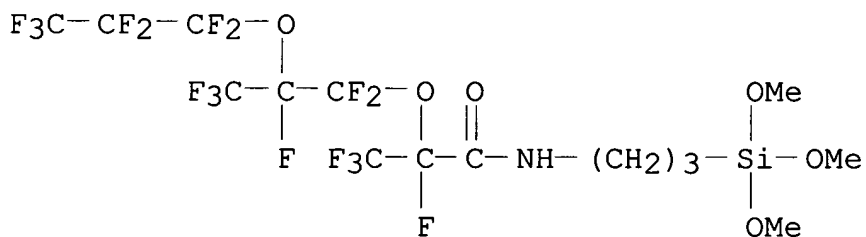
RN 221453-26-5 HCAPLUS

CN Propanamide, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]-N-[3-(trimethoxysilyl)propyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 145121-01-3

CMF C15 H16 F17 N O6 Si



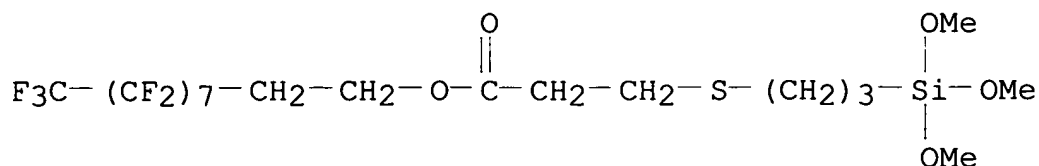
RN 221453-29-8 HCAPLUS

CN Propanoic acid, 3-[[3-(trimethoxysilyl)propyl]thio]-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 221453-28-7

CMF C19 H23 F17 O5 S Si



IC ICM C09K003-18
 ICS C09D183-08
 CC 42-10 (**Coatings**, Inks, and Related Products)
 ST silsesquioxane fluorine contg **glass** surface treatment
 IT **Glass**, miscellaneous
 (fluorine-containing siloxane surface treatment compns. with good storage stability and water repellency)
 IT **159412-13-2P** 161045-59-6P **221453-24-3P**
 221453-25-4P **221453-26-5P** 221453-27-6P
221453-29-8P 221453-30-1P
 (fluorine-containing siloxane surface treatment **compns.** with good storage stability and water repellency)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:114070 HCAPLUS
 DOCUMENT NUMBER: 130:210886
 TITLE: Polymer-coated glass articles with long-lasting fog resistance
 INVENTOR(S): Higuchi, Yoshiki; Harada, Eiji; Okuo, Masaki; Omura, Hiroshi; Suyama, Shuji
 PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11043353	A2	19990216	JP 1997-201700	1997 0728
PRIORITY APPLN. INFO.: JP 1997-201700				1997 0728

AB Glass substrates are coated with (A) compns. containing polymers having photoinitiator groups and polymers having photoinitiator groups and silyl groups and/or silane coupling agents or (A') compns. containing polymers having photoinitiator groups and silyl groups and optionally silane coupling agents, further coated with compns. containing hydrophilic monomers, and then irradiated with radiation so that hydrophilic polymer layer is formed. Alternatively the articles have fluoro polymer layer instead of the hydrophilic polymer layer. Goggles and mirrors equipped with the coated glass substrates are also claimed. Thus, 10 g 1-[4-[2-[2-(methacryloyloxy)ethoxycarbonyloxy]ethoxy]phenyl]-2-hydroxy-2-methylpropan-1-one and 90 g Me methacrylate were polymerized in MEK in the presence of lauroyl peroxide to give a photoinitiator group-containing polymer, 20 parts of which was mixed with 3 parts (trimethoxysilyl)propyl methacrylate (KBM 503) and 77 parts propylene glycol mono-Me ether, applied on a glass sheet, heated, and then an aqueous acrylamido-tert-butylsulfonic acid (ATBS) solution was applied on the resulting layer, irradiated with UV, washed, and dried to form a transparent coating showing pencil hardness 2H, cross-cut adhesion 100/100, and good antifogging property even after it was immersed in H₂O for 1 mo.

IT **220944-08-1P 220944-09-2P 220944-12-7P**
220944-13-8P

(polymer-coated glass articles with long-lasting fog resistance)

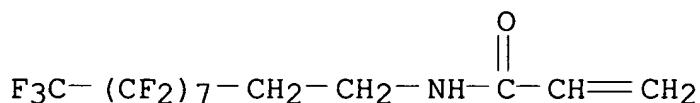
RN 220944-08-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with N-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 208589-64-4

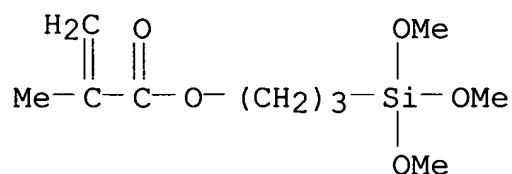
CMF C13 H8 F17 N O



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



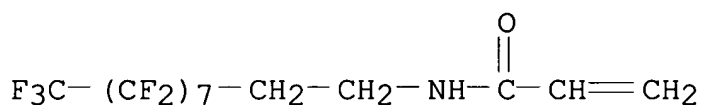
RN 220944-09-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4-hexafluoro-1,5-pentanedyl ester, polymer with N-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-2-propenamide, 2,2,4,4,6,6-hexahydro-2,2,4,4,6,6-hexakis[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]-1,3,5,2,4,6-triazatriphosphorine and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 208589-64-4

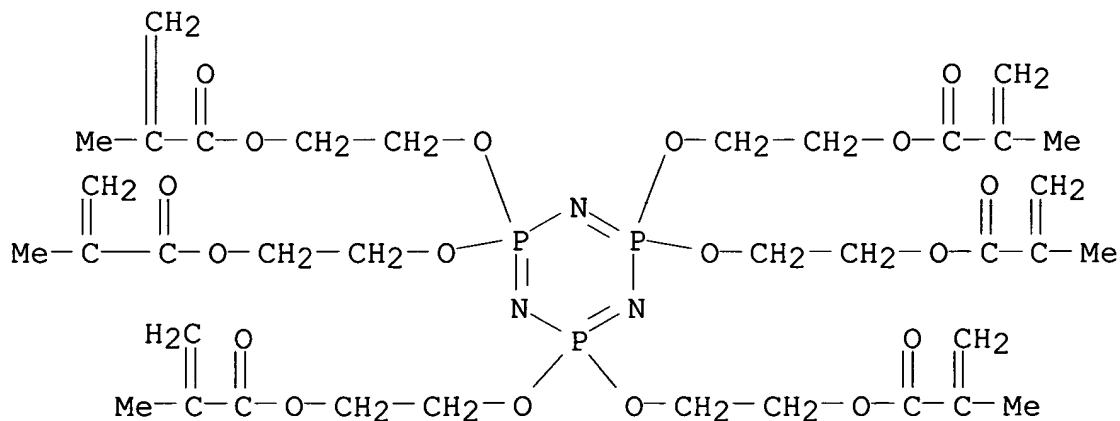
CMF C13 H8 F17 N O



CM 2

CRN 92832-53-6

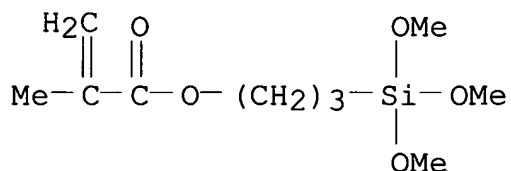
CMF C36 H54 N3 O18 P3



CM 3

CRN 2530-85-0

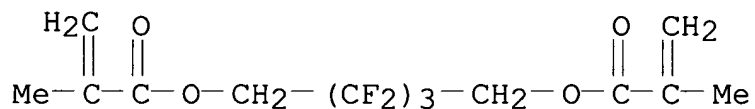
CMF C10 H20 O5 Si



CM 4

CRN 918-36-5

CMF C13 H14 F6 O4



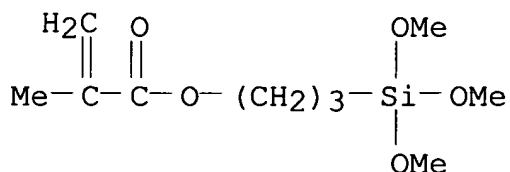
RN 220944-12-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with 1,1,1,2,2,3,3-heptafluoro-3-
[(trifluoroethenyl)oxy]propane (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

CMF C10 H20 O5 Si



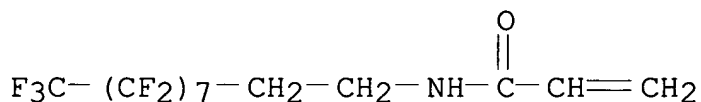
CM 2

CRN 1623-05-8

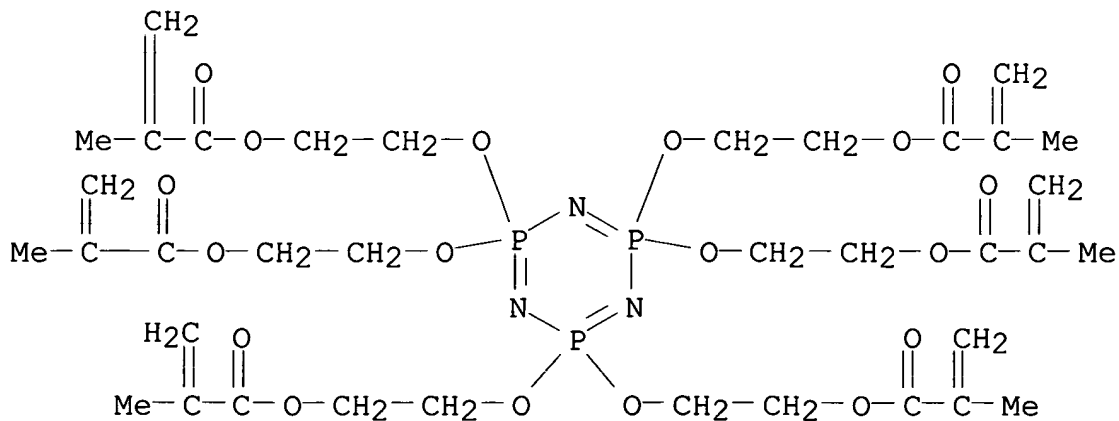
$$\begin{array}{c} \text{CF}_2 \\ || \\ \text{F}-\text{C}-\text{O}-\text{CF}_2-\text{CF}_2-\text{CF}_3 \end{array}$$

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with N-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-2-propenamide and 2,2,4,4,6,6-hexahydro-2,2,4,4,6,6-hexakis[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]-1,3,5,2,4,6-triazatriphosphorine (9CI) (CA INDEX NAME)

CMF C13 H8 F17 N O



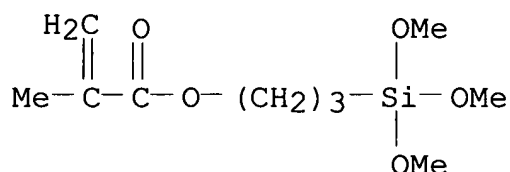
CMF C36 H54 N3 O18 P3



CM 3

CRN 2530-85-0

CMF C10 H20 O5 Si



IC ICM C03C017-34

ICS B32B017-10; C09D201-10; G02B001-10; G02B005-08; A47G001-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT 220943-99-7P, ATBS-KBM 503-oxirane graft copolymer 220944-00-3P

220944-01-4P 220944-02-5P 220944-03-6P 220944-04-7P, Antox

MS 2N-Epolite 3002A-KBM 503 copolymer 220944-05-8P

220944-06-9P 220944-07-0P **220944-08-1P****220944-09-2P 220944-12-7P 220944-13-8P**(polymer-coated glass articles with
long-lasting fog resistance)

L24 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:49066 HCAPLUS

DOCUMENT NUMBER: 130:128789

TITLE: Water-repellent glass and its manufacture

INVENTOR(S): Akamatsu, Yoshinori; Hamaguchi, Shigeo

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11011984	A2	19990119	JP 1997-172512	1997 0627
PRIORITY APPLN. INFO.:			JP 1997-172512	1997 0627

AB The title glass contains a water-repellent coating of a F-containing silane compound, where nonreacted groups are inactivated. Claimed process involves following steps; hydrolysis and polycondensation of a solution containing fluoroalkyl-group-containing silane compds.; coating

the solution on a glass substrate for forming a water-repellent coating; treating the coating in a solution containing silylation agents

for inactivating unreacted groups. The water-repellent glass provides good durability and is especially suitable for use as automobile windows and architectural windows.

IT **159412-13-2DP**, trimethylsilyl-terminated (ladder, sru; water-repellent **coatings** on **glass** formed by hydrolysis and silylation of F-containing silane compound)

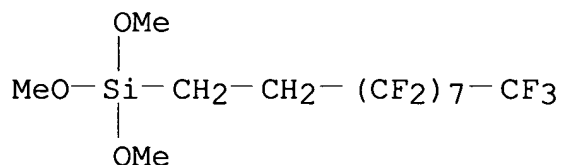
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IC ICM C03C017-30

ICS B60J001-00; C09K003-18

CC 57-1 (Ceramics)

Section cross-reference(s): 42

IT **159412-13-2DP**, trimethylsilyl-terminated (ladder, sru; water-repellent **coatings** on **glass** formed by hydrolysis and silylation of F-containing silane compound)

L24 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:49065 HCAPLUS

DOCUMENT NUMBER: 130:142918

TITLE: Manufacture of water-repellent coatings on glass from fluoroalkylsilane and alkoxysilane

INVENTOR(S): Nakagawa, Toru; Soga, Sanemori

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd.,
Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 11011983	A2	19990119	JP 1997-162259	1997 0619

PRIORITY APPLN. INFO.: JP 1997-162259
1997
0619

AB The title coatings are manufactured by following steps; hydrolysis and polycondensation of solns. containing (A) methoxysilyl- or ethoxysilyl-group-containing fluorocarbon compds. and (B) methoxysilane or ethoxysilane compds. as glass precursors in the presence of acidic catalysts and water; coating the solns. on solid substrates; exposing the surfaces under alkaline solns. for further hydrolysis and polycondensation of A or the glass precursors; drying; heat treatment for polycondensation of A or the glass precursors. The coatings have good heat resistance.

IT **163004-18-0P**
(hydrolysis of fluoroalkylsilane and alkoxysilane with acids and alkalies in manufacture of water-repellent **coatings** on **glass**)

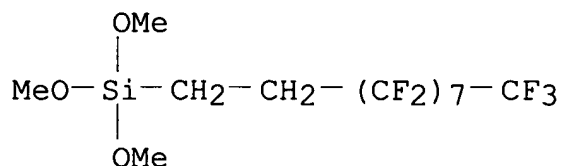
RN 163004-18-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

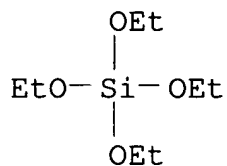
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C03C017-30

CC 57-1 (Ceramics)

Section cross-reference(s): 42

IT **163004-18-0P**

(hydrolysis of fluoroalkylsilane and alkoxysilane with acids and alkalies in manufacture of water-repellent **coatings** on **glass**)

L24 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:536057 HCAPLUS

DOCUMENT NUMBER: 129:192517

TITLE: Water-repellent ceramic coating films showing semipermanent effects without periodical washing maintenances and manufacture thereof

INVENTOR(S): Nakagawa, Toru; Takahashi, Yasuhito; Soga, Sanemori

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 JP 10219461 A2 19980818 JP 1997-23548
 1997
 0206
 PRIORITY APPLN. INFO.: JP 1997-23548
 1997
 0206

AB The ceramic films consist of oxides of Si, Al, Ti, Zr, Sn, and/or W containing mols. having fluoroalkyl groups, and TiO₂ particles. Coating solns. containing TiO₂ particles, hydrolyzed products of fluoroalkylmethoxysilanes or of fluoroalkylethoxysilanes, and hydrolyzed products of alkoxides of Si, Al, Ti, Zr, Sn, and/or W are applied on substrates, and then fired to give the films. The films are fouling resistance due to the presence of photocatalytic TiO₂ particles, and do not require periodical maintenances such as washing even being used in smoking room or in exhaust gas atmospheric

IT **159412-13-2P**, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl)trimethoxysilane homopolymer (firing of; in preparation of water-repellent oxide **ceramic coatings** containing titania particles and fluoroalkyl group-containing mols.)

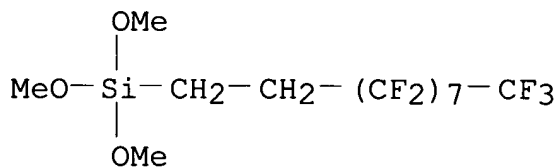
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IC ICM C23C018-12

ICS G02B001-10

CC 57-2 (Ceramics)

Section cross-reference(s): 42, 74

IT **159412-13-2P**, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-Heptadecafluorodecyl)trimethoxysilane homopolymer

(firing of; in preparation of water-repellent oxide **ceramic**

coatings containing titania particles and fluoroalkyl group-containing mols.)

L24 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:351540 HCAPLUS

DOCUMENT NUMBER: 129:68926

TITLE: Silane coupler-modified fluoropolymer-containing antireflective film-forming compositions with scratch resistance

INVENTOR(S): Sato, Hozumi; Nishikawa, Akira; Yamada, Kinji

PATENT ASSIGNEE(S): Japan Synthetic Rubber Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 10147739	A2	19980602	JP 1996-309726	1996 1120
PRIORITY APPLN. INFO.: JP 1996-309726				1996 1120

AB Title compns. contain silane-modified fluoropolymers prepared by reaction of 1-50 parts hydrolyzable silyl-containing silane couplers XSi(OR)₃ [R = alkyl, aryl, alkoxyalkyl; X = NH₂, SH, NCO, epoxy, and/or (meth)acryloxy group] and 100 parts fluoropolymers having F content 40% and intrinsic viscosity ([η], in AcOMe₂, 25°) 0.05-2 dL/g and prepared from C₃F₆ 20-70, OH-, NH₂, epoxy, and/or carboxy-containing monomers (reactive to functional groups in silanes) 1-20, and other monomers 10-70 mol%. A polycarbonate plate was dip coated with a composition containing a reaction

product from 10 parts 3-(triethoxysilyl)propyl isocyanate and 100 parts 44.1:50.5:5.4 mol% Et vinyl ether-hexafluoropropane-4-hydroxybutyl vinyl ether copolymer (with [η] 0.26 dL/g) and baked at 100° for 30 min to form a 0.1- μ m film with good adhesion to the plate, pencil hardness H, and reflection 2%.

IT **208933-97-5P 208934-40-1P 208934-41-2P**

(hydrolyzable silyl silane coupler-modified fluoropolymer **coatings on plastics** for reflection and scratch resistance)

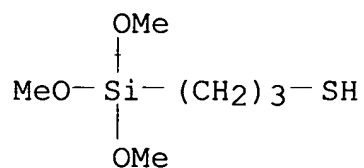
RN 208933-97-5 HCAPLUS

CN 1-Propanethiol, 3-(trimethoxysilyl)-, polymer with [(ethenyloxy)methyl]oxirane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 4420-74-0

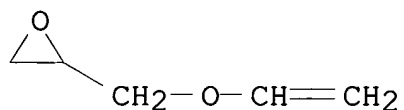
CMF C6 H16 O3 S Si



CM 2

CRN 3678-15-7

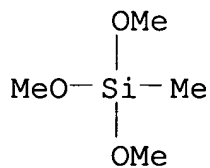
CMF C5 H8 O2



CM 3

CRN 1185-55-3

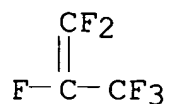
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

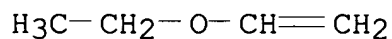
CMF C3 F6



CM 5

CRN 109-92-2

CMF C4 H8 O



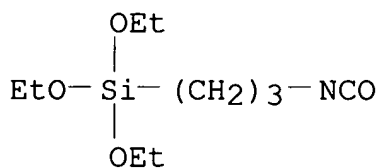
RN 208934-40-1 HCAPLUS

CN 1-Butanol, 4-(ethenyloxy)-, polymer with ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene, triethoxy(3-
isocyanatopropyl)silane and trimethoxymethylsilane (9CI) (CA
INDEX NAME)

CM 1

CRN 24801-88-5

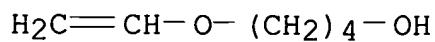
CMF C10 H21 N O4 Si



CM 2

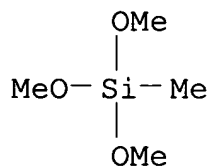
CRN 17832-28-9

CMF C6 H12 O2



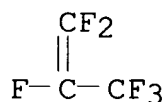
CM 3

CRN 1185-55-3
CMF C4 H12 O3 Si



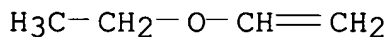
CM 4

CRN 116-15-4
CMF C3 F6



CM 5

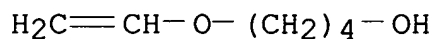
CRN 109-92-2
CMF C4 H8 O



RN 208934-41-2 HCAPLUS
CN Acetic acid ethenyl ester, polymer with 4-(ethenyloxy)-1-butanol, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, N-[3-(triethoxysilyl)propyl]-1,2-ethanediamine and trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

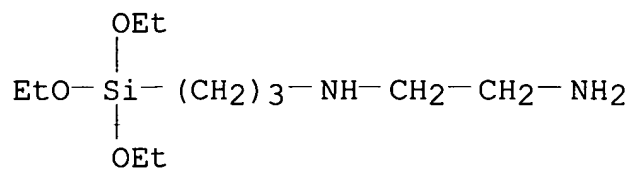
CRN 17832-28-9
CMF C6 H12 O2



CM 2

CRN 5089-72-5

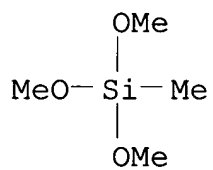
CMF C11 H28 N2 O3 Si



CM 3

CRN 1185-55-3

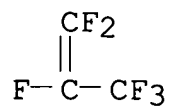
CMF C4 H12 O3 Si



CM 4

CRN 116-15-4

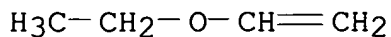
CMF C3 F6



CM 5

CRN 109-92-2

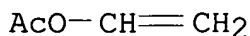
CMF C4 H8 O



CM 6

CRN 108-05-4

CMF C4 H6 O2



IC ICM C09D127-20

ICS C08K005-54; C08L027-20; G02B001-11

CC 42-10 (Coatings, Inks, and Related Products)

IT **208933-97-5P 208934-40-1P 208934-41-2P**

(hydrolyzable silyl silane coupler-modified fluoropolymer
coatings on plastics for reflection and
scratch resistance)

L24 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:617515 HCAPLUS

DOCUMENT NUMBER: 127:249485

TITLE: Fluoropolymer antisoiling coatings for glass
of medical and examination use
INVENTOR(S): Yamaguchi, Takeo; Higo, Yukiko; Fukuchi,
Yoshihisa

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 09241573	A2	19970916	JP 1996-45703	

1996
0304

PRIORITY APPLN. INFO.: JP 1996-45703

1996
0304

AB The coatings which resist the soiling of enzymes, etc., comprise
ethylenically unsatd. fluoro monomers having perfluoroalkyl groups

20-80, ethylenically unsatd. monomers having crosslinking groups 80-20, and other ethylenically unsatd. monomers 0-50%. A copolymer of $\text{CH}_2\text{CHMeCO}_2\text{C}_2\text{H}_4(\text{CF}_2)_8\text{F}$ and $\text{CH}_2\text{CHMeCO}_2\text{C}_3\text{H}_6\text{Si}(\text{OMe})_3$ was prepared, mixed with p-TsOH (1%), and dilute in EtOAc to give a 2%-solids solution, which formed an interior coating of a glass container, showing good repellency to enzymes.

IT **106826-30-6P 186022-44-6P 195625-99-1P**

(fluoropolymer antisoiling **coatings** for **glass** of medical and examination use)

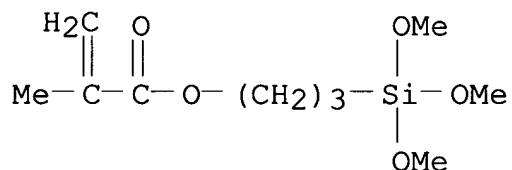
RN 106826-30-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

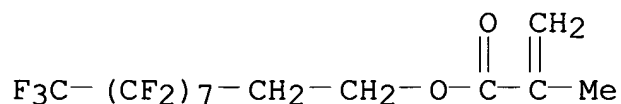
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

CMF C14 H9 F17 O2



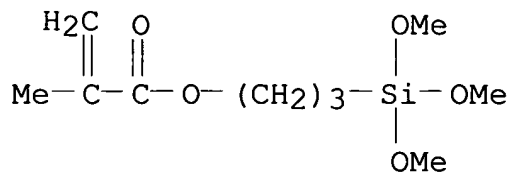
RN 186022-44-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

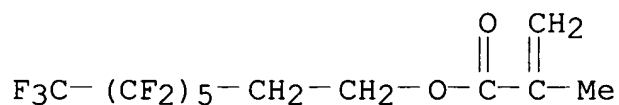
CMF C10 H20 O5 Si



CM 2

CRN 2144-53-8

CMF C12 H9 F13 O2



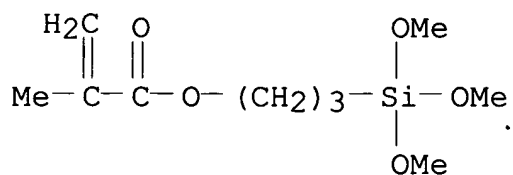
RN 195625-99-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with
 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl
 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate and
 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX
 NAME)

CM 1

CRN 2530-85-0

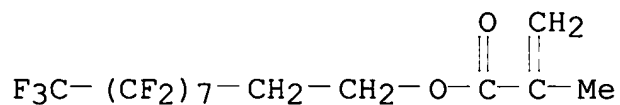
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

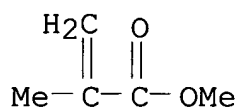
CMF C14 H9 F17 O2



CM 3

CRN 80-62-6

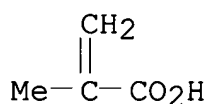
CMF C5 H8 O2



CM 4

CRN 79-41-4

CMF C4 H6 O2



IC ICM C09D127-12
 ICS C09D133-02; C09D133-04; C09D133-16; C09D143-04; A61L002-16
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 63
 IT **106826-30-6P 186022-44-6P** 195625-94-6P
 195625-95-7P 195625-96-8P 195625-97-9P 195625-98-0P
195625-99-1P 195626-00-7P
 (fluoropolymer antisoiling **coatings** for **glass**
 of medical and examination use)

L24 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:574794 HCAPLUS

DOCUMENT NUMBER: 127:249467

TITLE: Water-repellent coating compositions with low
 fluorine content and good adhesion on
substrates, acid resistance and
 hardness

INVENTOR(S): Fukuchi, Yoshihisa; Kano, Yoshinori

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 09221619	A2	19970826	JP 1996-30195	1996 0219
JP 2982678	B2	19991129		
US 5945482	A	19990831	US 1996-646632	1996 0508
EP 807664	A1	19971119	EP 1996-303295	1996 0513
EP 807664	B1	19990714		
R: DE, FR, GB				
PRIORITY APPLN. INFO.:			JP 1996-30195	A 1996 0219

AB The title compns. comprise (A) polymers of (a) 20-80% monomers containing C-C double bond and perfluoroalkyl group, (b) 80-20% of monomers containing C-C double bond and crosslinking functional group, and (c) 0-30% comonomer having C-C double bond, and (B) copolymers of 20-99% the monomer b and 1-80% other monomer containing C-C double bond. A copolymer of 55% CH₂:CMeCO₂CH₂CH₂(CF₂)₈F and 45% CH₂:CMeCO₂C₃H₆Si(OMe)₃ (I) and a copolymer of 75% I, 15% acrylic acid, and 10% Me methacrylate were used with p-toluenesulfonic acid on **glass** plates.

IT **106826-30-6P 186022-44-6P 186022-45-7P 194593-10-7P**

(water-repellent coating **compns.** with low fluorine content and good adhesion on **substrates**, acid resistance and hardness)

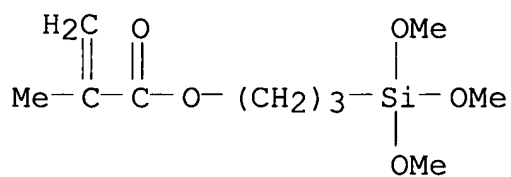
RN 106826-30-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

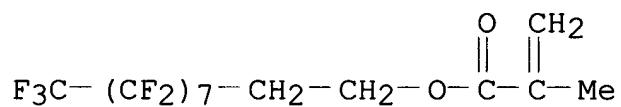
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

CMF C14 H9 F17 O2



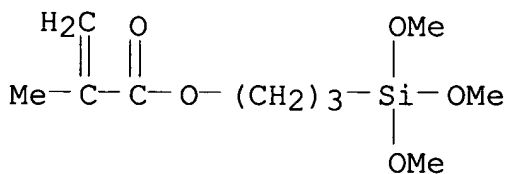
RN 186022-44-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

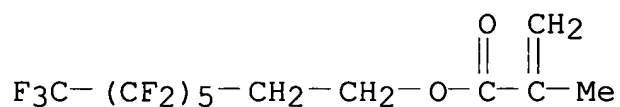
CMF C10 H20 O5 Si



CM 2

CRN 2144-53-8

CMF C12 H9 F13 O2



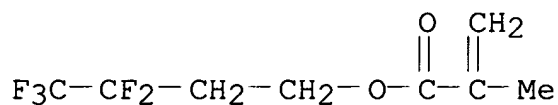
RN 186022-45-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,4-pentafluorobutyl ester,
polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 52519-51-4

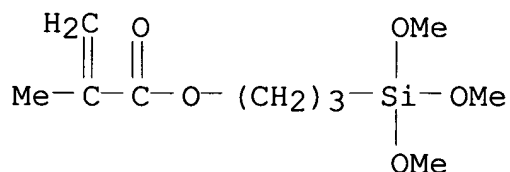
CMF C8 H9 F5 O2



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



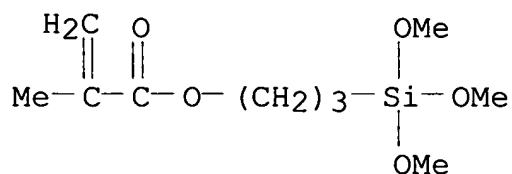
RN 194593-10-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl ester, polymer with 2-propenoic acid and
3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX
NAME)

CM 1

CRN 2530-85-0

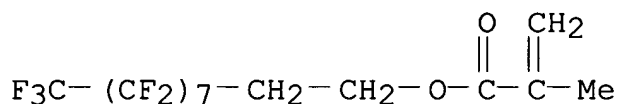
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

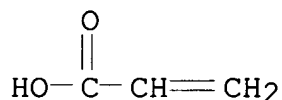
CMF C14 H9 F17 O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM C09D127-12

ICS C09D133-16; C09D143-04; C09D157-00; C09K003-18

CC 42-10 (**Coatings**, Inks, and Related Products)

IT Coating materials

(acid-resistant; water-repellent coating compns. with low fluorine content and good adhesion on **substrates**, acid resistance and hardness)

IT Silica gel, uses

(water-repellent coating compns. with low fluorine content and good adhesion on **substrates**, acid resistance and hardness)

IT Coating materials

(water-resistant; water-repellent coating compns. with low fluorine content and good adhesion on **substrates**, acid resistance and hardness)

IT 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer
26355-01-1P, 2-Hydroxyethyl methacrylate-methyl methacrylate

copolymer 26936-30-1P, 3-Methacryloyloxypropyltrimethoxysilane-methyl methacrylate copolymer 82628-20-4P 82628-21-5P, Acrylic acid-3-methacryloyloxypropyltrimethoxysilane-methyl methacrylate copolymer 100042-81-7P, Methacryloyloxyethyl isocyanate-methyl methacrylate copolymer **106826-30-6P 186022-44-6P 186022-45-7P 194593-10-7P** 195526-93-3P 195526-96-6P

(water-repellent coating **compns.** with low fluorine content and good adhesion on **substrates**, acid resistance and hardness)

L24 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:207094 HCAPLUS

DOCUMENT NUMBER: 126:200748

TITLE: Waterproofing and abrasion-resistant coatings and their coated glass for windows

INVENTOR(S): Yamamoto, Hiroaki; Nozu, Takashi; Mitani, Kazuishi

PATENT ASSIGNEE(S): Nippon Sheet Glass Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 09013018	A2	19970114	JP 1995-167305	1995 0703

PRIORITY APPLN. INFO.: JP 1995-167305

1995
0703

AB The coatings contain (a) metal compds. with ≥ 1 hydrolyzable groups bonded to the metal, (b) F-containing metal compds. with ≥ 2 the metal-bonded hydrolyzable groups which are partially substituted with fluoroalkyl groups, and (c) fine particles. The compns. are applied onto glass substrates and fired to give the waterproofing glass. Thus, mixing Si(OEt)₄ 52.10, CF₃(CF₂)₇(CH₂)₂Si(OMe)₃ 1.42, and MeCHOH 383.00 g, blending with 10.58 g H₂O and 2.70 g 1N HCl solution, stirring, and mixing with 73.70 g Snowtex OL and 449.80 g Me₂CHOH gave a coating. A float glass was dip-coated with the coating, dried at 120°, and fired at 250° to give a waterproofing and abrasion-resistant coating.

IT **163004-18-0P 187818-02-6P**

(waterproofing and abrasion-resistant **coatings** on
glass for windows)

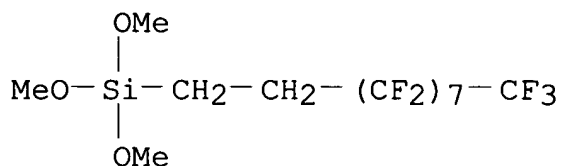
RN 163004-18-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with
(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

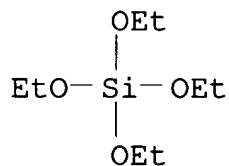
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



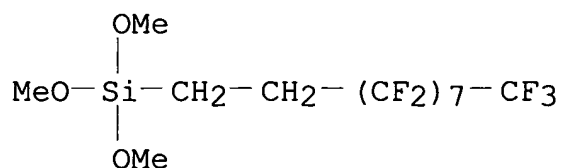
RN 187818-02-6 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with 1-butanol
zirconium(4+) salt and (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-
heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

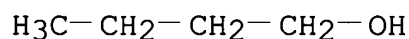
CMF C13 H13 F17 O3 Si



CM 2

CRN 1071-76-7

CMF C4 H10 O . 1/4 Zr

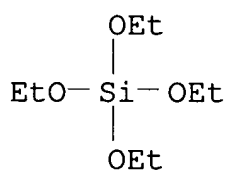


● 1/4 Zr(IV)

CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C09K003-18

ICS C09K003-18; C03C017-30

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT **163004-18-0P 187818-02-6P**(waterproofing and abrasion-resistant **coatings** on
glass for windows)

L24 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:207093 HCAPLUS

DOCUMENT NUMBER: 126:200747

TITLE: Waterproofing fluorosilicone compositions for

INVENTOR(S): windows
 Sunaga, Takeshi; Sato, Norio
 PATENT ASSIGNEE(S): Toshiba Silicone, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 09013017	A2	19970114	JP 1995-160635	1995 0627
JP 2978421	B2	19991115	JP 1995-160635	1995 0627

PRIORITY APPLN. INFO.:
 JP 1995-160635

AB The waterproofing agents contain (a) $\text{CF}_3(\text{CF}_2)_m(\text{CH}_2)_n\text{SiR}_p\text{X}_3-p$ (R = monovalent hydrocarbyl; X = hydrolyzable group; m = 0-10, n = 2-10; p = 0-2) 0.05-10.0, (b) $\text{R}_1\text{qSiY}_4-q$ (R1 = monovalent hydrocarbyl; Y = hydrolyzable group; q = 1-3) 0.05-10.0, (c) hydrolysis catalysts 0.001-10.0, and (d) organic solvents 2.0-99.8%. Thus, 2.0 parts heptadecafluorodecyltrimethoxysilane and 2.0 parts $\text{Me}_2\text{Si}(\text{OMe})_2$ were mixed in Me_2CHOH and propylene glycol mono-Me ether in the presence of HNO_3 , dip-coated onto a **glass substrate**, and dried at room temperature to give a waterproofing coating.

IT **187817-23-8P 187817-24-9P 187817-25-0P**
187817-26-1P

(waterproofing fluorosilicone **compns.** for windows)

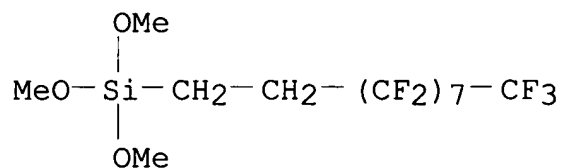
RN 187817-23-8 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with
 (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-
 heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

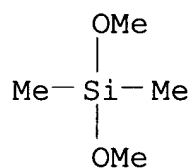
CMF C13 H13 F17 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



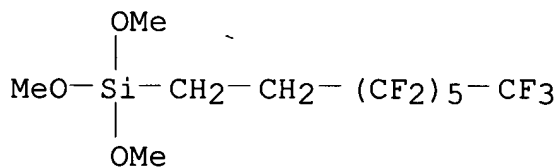
RN 187817-24-9 HCAPLUS

CN Silane, dimethoxydimethyl-, polymer with
trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane
(9CI) (CA INDEX NAME)

CM 1

CRN 85857-16-5

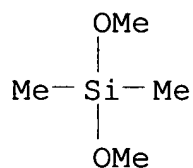
CMF C11 H13 F13 O3 Si



CM 2

CRN 1112-39-6

CMF C4 H12 O2 Si



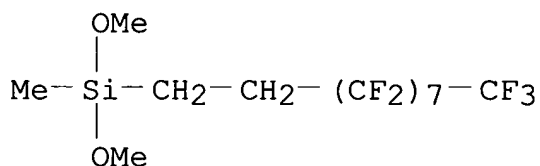
RN 187817-25-0 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)dimethoxymethyl-, polymer with hexyltrimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83038-84-0

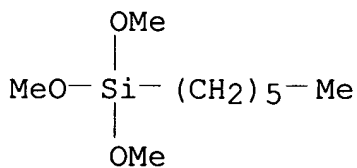
CMF C13 H13 F17 O2 Si



CM 2

CRN 3069-19-0

CMF C9 H22 O3 Si



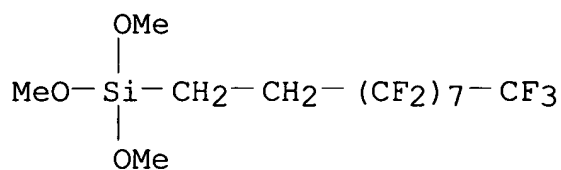
RN 187817-26-1 HCAPLUS

CN Silane, butyldimethoxymethyl-, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

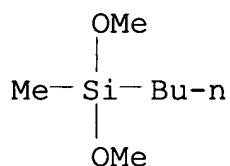
CMF C13 H13 F17 O3 Si



CM 2

CRN 18294-08-1

CMF C7 H18 O2 Si



IC ICM C09K003-18

ICS C03C017-30

CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 57IT **187817-23-8P 187817-24-9P 187817-25-0P**
187817-26-1P(waterproofing fluorosilicone **compns.** for windows)

L24 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:174500 HCAPLUS

DOCUMENT NUMBER: 126:175619

TITLE: Water-repellent glass articles and their
preparationINVENTOR(S): Mitani, Kazuishi; Nozu, Takashi; Yamamoto,
Hiroaki

PATENT ASSIGNEE(S): Nippon Sheet Glass Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

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JP 08319137      A2      19961203      JP 1995-124098
                                                    1995
                                                    0523

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PRIORITY APPLN. INFO.:      JP 1995-124098
                                                    1995
                                                    0523

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AB The title articles comprise a glass substrate coated with a water-repellent film containing fluoropolymers and fluoroalkylsilane condensates. Si oxide-based primer coatings may be formed between the substrates and the films. The articles are prepared by spraying liqs. containing fluoropolymers and hydrolyzed fluoroalkylsilane compds. on high-temperature heated glass substrates. The articles have high water repellency, wear resistance, and transparency. The articles are suitable for window glass, road panels, and containers.

IT **160190-21-6P**

(compns. and formation of water-repellent **coatings** on **glass** substrates)

RN 160190-21-6 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, homopolymer, hydrolytic (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8

CMF C10 H4 C13 F17 Si

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{CH}_2-(\text{CF}_2)_7-\text{CF}_3$

CM 2

CRN 7732-18-5

CMF H2 O

H₂O

IC ICM C03C017-30

ICS C03C017-42; C09K003-18

CC 57-2 (Ceramics)
Section cross-reference(s): 42
IT **160190-21-6P** 161045-59-6P
(compns. and formation of water-repellent **coatings** on
glass substrates)

L24 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:164560 HCAPLUS
DOCUMENT NUMBER: 126:160996
TITLE: Manufacture of water-repellent glass articles
INVENTOR(S): Mitani, Kazuishi; Nozu, Takashi; Yamamoto,
Hiroaki
PATENT ASSIGNEE(S): Nippon Sheet Glass Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08319136	A2	19961203	JP 1995-124099	1995 0523
PRIORITY APPLN. INFO.: JP 1995-124099				1995 0523

AB The title articles are manufactured by spraying water-repellent agents containing alkylsilane compds., fluoroalkylsilane compds., or dimethylpolysiloxanes on glass substrate surfaces kept at high temperature The manufacture involves the following steps; (1) heating glass sheets at high temperature in heating furnaces, (2) pulling the sheets out from the furnaces, (3) immediately curving the sheets to give prescribed forms and/or spraying fluids on the glass sheets for air cooling and reinforcing, and (4) immediately spraying the water-repellent agents claimed above on the glass sheets which have been kept at high temperature The obtained water repellency is deterioration resistant, and the manufacture does not require precision washing as a post treatment.

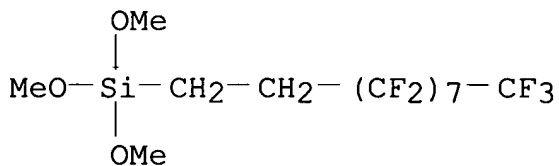
IT **159412-13-2P**
(coatings; formation of water-repellent **coatings** on
glass sheets)
RN 159412-13-2 HCAPLUS

CN Silane, (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

CMF C13 H13 F17 O3 Si



IT **186768-65-0P**

(coatings; formation of water-repellent **coatings** on **glass** sheets)

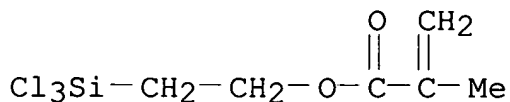
RN 186768-65-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(trichlorosilyl)ethyl ester, polymer with ammonia and trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 186768-64-9

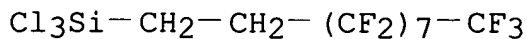
CMF C6 H9 Cl3 O2 Si



CM 2

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si



CM 3

CRN 7664-41-7
CMF H3 N

NH3

IC ICM C03C017-30
ICS C09K003-18
CC 57-1 (Ceramics)
Section cross-reference(s): 42
IT **159412-13-2P** 161045-59-6P
(coatings; formation of water-repellent **coatings** on
glass sheets)
IT **186768-65-0P**
(coatings; formation of water-repellent **coatings** on
glass sheets)

L24 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:540636 HCAPLUS
DOCUMENT NUMBER: 125:171124
TITLE: Water-repellent coating compositions
INVENTOR(S): Fukuchi, Yoshihisa
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08143820	A2	19960604	JP 1994-284852	1994 1118
PRIORITY APPLN. INFO.: JP 1994-284852				1994 1118

AB Compns. yielding coatings with good hardness and acid resistance, useful for automobile windshields and windows, comprise copolymers of 20-80% (A) fluoro monomers having C:C unsatn. and perfluoro groups and 20-80% (B) fluoro monomers having C:C unsatn. and alkoxysilyl groups, polymers of B having 0.1-10% fluoro monomers (vs. total composition), and halogen-free solvents. Thus, a 10:90

mixture of a 50:50 copolymer of 2-(perfluorooctyl)ethyl methacrylate and [γ -(methacryloyloxy)propyl]trimethoxysilane (I) and I homopolymer were mixed with Et acetate, coated on a glass plate, left at room temperature for 30 min, and baked at 200° for 10 min to give a test piece showing pencil hardness 5H (JIS K 5400), contact angle 113°, and good solvent and acid resistance.

IT **106826-30-6P**

(water-repellent fluoropolymer **coatings** for automotive **glass**)

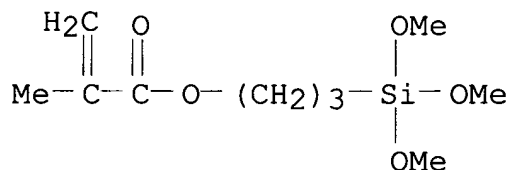
RN 106826-30-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

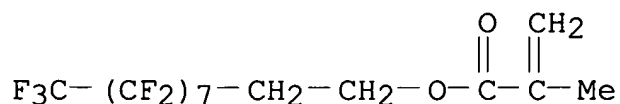
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

CMF C14 H9 F17 O2



IC ICM C09D201-10

ICS C09D133-16; C09D143-04; C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38

IT 52004-97-4P, γ -Methacryloxypropyltrimethoxysilane homopolymer **106826-30-6P**

(water-repellent fluoropolymer **coatings** for automotive **glass**)

L24 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:392062 HCAPLUS
 DOCUMENT NUMBER: 125:117573
 TITLE: Water-repellent surface treatment with
 integrated coating
 INVENTOR(S): Goodwin, George B.
 PATENT ASSIGNEE(S): PPG Industries, Inc., USA
 SOURCE: U.S., 5 pp., Cont.-in-part of U.S. Ser. No.
 220, 353, abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 12
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 5523161	A	19960604	US 1994-363803	1994 1227
US 4983459	A	19910108	US 1990-503587	1990 0403
US 5308705	A	19940503	US 1990-589235	1990 0928
CA 2161278	AA	19960628	CA 1995-2161278	1995 1024
CA 2161278	C	20000104		
EP 719743	A1	19960703	EP 1995-119467	1995 1211
EP 719743	B1	19990317		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 177727	E	19990415	AT 1995-119467	1995 1211
ES 2132502	T3	19990816	ES 1995-119467	1995 1211
JP 08239653	A2	19960917	JP 1995-327517	1995 1215
US 5707740	A	19980113	US 1996-660352	1996 0607

US 5674967	A	19971007	US 1996-727698	1996 0923
US 5980990	A	19991109	US 1997-985554	1997 1205
US 6025025	A	20000215	US 1998-95200	1998 0610
PRIORITY APPLN. INFO.:			US 1990-503587	A2 1990 0403
			US 1990-589235	A2 1990 0928
			US 1994-220353	B2 1994 0330
			US 1994-363803	A 1994 1227
			US 1995-461464	B2 1995 0605
			US 1996-461464	B1 1996 0605
			US 1996-660352	A3 1996 0607
			US 1997-985554	A2 1997 1205

AB A method and article are disclosed wherein a **glass, plastic**, metal, organic polymer coated **substrate** or inorg. coated **substrate** is provided with a durable non-wetting surface by treatment with a perfluoroalkylalkylsilane and a completely hydrolyzable SiX₄ (X = halo, alkoxy, or acyl). These compns. optionally contain fluorinated olefins, and the **substrates** are optionally primed with silica.

IT 179259-52-0P 179259-53-1P

(water-repellent coatings from **compns.** containing
perfluoroalkylalkylsilanes and completely hydrolyzable silanes)

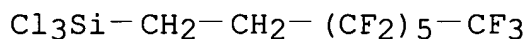
RN 179259-52-0 HCAPLUS

CN Silane, tetrachloro-, polymer with trichloro(3,3,4,4,5,5,6,6,7,7,8,
8,8-tridecafluorooctyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 78560-45-9

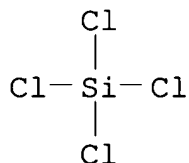
CMF C8 H4 Cl3 F13 Si



CM 2

CRN 10026-04-7

CMF Cl4 Si



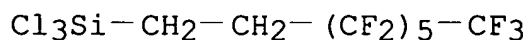
RN 179259-53-1 HCAPLUS

CN Silane, tetrachloro-, polymer with trichloro(3,3,4,4,5,5,6,6,7,7,8,
8,9,9,10,10,10-heptafluorodecyl)silane and
trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane
(9CI) (CA INDEX NAME)

CM 1

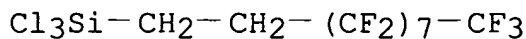
CRN 78560-45-9

CMF C8 H4 Cl3 F13 Si



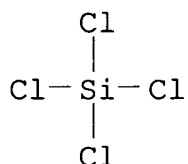
CM 2

CRN 78560-44-8
CMF C10 H4 Cl3 F17 Si



CM 3

CRN 10026-04-7
CMF Cl4 Si



IC ICM B32B027-00
NCL 428421000
CC 42-10 (**Coatings**, Inks, and Related Products)
Section cross-reference(s): 38, 55, 56, 57
ST water repellent fluorine contg siloxane coating; silica primer
water repellent coating; fluoro olefin water repellent coating;
plastic substrate water repellent coating
silane; metal water repellent coating silane; **glass**
water repellent coating silane
IT **Glass**, oxide
(**substrate**; water-repellent coatings from compns.
containing perfluoroalkylalkylsilanes and completely hydrolyzable
silanes)
IT Metals, miscellaneous
Plastics
(**substrates**; water-repellent coatings from compns.
containing perfluoroalkylalkylsilanes and completely hydrolyzable
silanes)
IT 10025-78-2DP, Trichlorosilane, fluoroalkyl derivs., polymers with
tetrachlorosilane **179259-52-0P 179259-53-1P**
(water-repellent coatings from **compns.** containing
perfluoroalkylalkylsilanes and completely hydrolyzable silanes)

L24 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:148151 HCAPLUS
DOCUMENT NUMBER: 124:235035
TITLE: Antireflective fluoropolymer coating

INVENTOR(S): compositions
Fukuchi, Yoshihisa
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07331115	A2	19951219	JP 1994-128757	

1994
0610

PRIORITY APPLN. INFO.: JP 1994-128757

1994
0610

AB Title transparent compns. with improved rigidity and adhesion contain 60-85% F-containing monomers, 15-40% monomers bearing hydrolyzable silyl groups, and 0-25% other unsatd. monomers. Thus, 80 parts 1H,1H,9H-hexadecafluorononyl methacrylate and 20 parts 3-methacryloxypropyltrimethoxysilane were polymerized in MEK, then the resulting polymer solution was mixed with p-toluenesulfonic acid and water, applied on a **glass** plate, and baked to give coatings showing improved rigidity, adhesion, and water and solvent resistance.

IT **175016-72-5P 175016-73-6P**
(antireflective fluoropolymer-siloxane coating **compns** .)

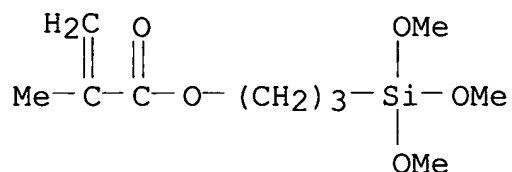
RN 175016-72-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl ester, polymer with 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

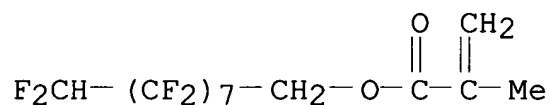
CMF C10 H20 O5 Si



CM 2

CRN 1841-46-9

CMF C13 H8 F16 O2



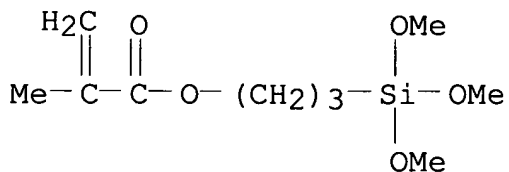
RN 175016-73-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with
 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl
 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-85-0

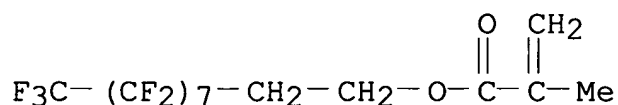
CMF C10 H20 O5 Si



CM 2

CRN 1996-88-9

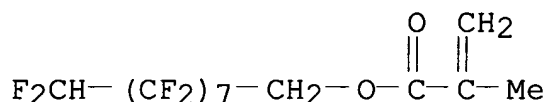
CMF C14 H9 F17 O2



CM 3

CRN 1841-46-9

CMF C13 H8 F16 O2



IC ICM C09D005-00

ICS C08F220-06; C08F220-22; C08F230-08; C09D143-04

CC 42-10 (**Coatings**, Inks, and Related Products)IT **Glass**, oxide(plate, **substrates**; antireflective
fluoropolymer-siloxane coating compns.)IT **175016-72-5P 175016-73-6P**(antireflective fluoropolymer-siloxane coating **compns**
.)

L24 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:551012 HCAPLUS

DOCUMENT NUMBER: 122:293561

TITLE: Formation of water-repellent coatings

INVENTOR(S): Nishimura, Kazuhiko; Nakajima, Junji; Ito,
Takashi; Toshima, Kazuo; Yamazawa, Yasushi;
Kobayashi, Ai

PATENT ASSIGNEE(S): Aisin Seiki, Japan; Toyota Motor Co Ltd

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 06330028	A2	19941129	JP 1993-121381	

1993

PRIORITY APPLN. INFO.:

JP 1993-121381

0524

1993

0524

AB Coating materials are prepared from metal alkoxides, fluoroalkyl metal alkoxides, water, acids, and alcs. Thus, a coating material on glass was prepared from Si(OEt)₄ 50, perfluorooctylethyltrimethoxysilane 1.37, ethanol 341.3, Et Cellosolve 85.3, water 18.8 g, and 1N HCl.

IT **163004-18-0P**(water-repellent **coatings** on **glass**)

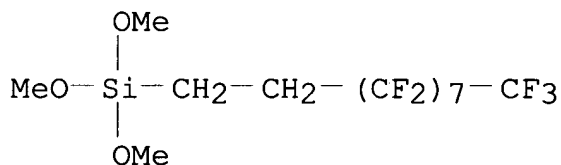
RN 163004-18-0 HCAPLUS

CN Silicic acid (H₄SiO₄), tetraethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

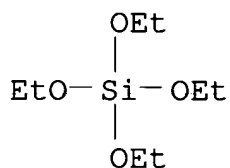
CMF C13 H13 F17 O3 Si



CM 2

CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM C09K003-18

ICS B05D005-00; C09D183-04

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 57

IT **163004-18-0P**
(water-repellent **coatings** on **glass**)

L24 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:492082 HCAPLUS
DOCUMENT NUMBER: 122:242471
TITLE: Manufacture of siloxane coating compositions
for lenses
INVENTOR(S): Sakai, Yasuhiro; Takushima, Shusuke
PATENT ASSIGNEE(S): Asahi Optical Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 06347605	A2	19941222	JP 1993-134723	1993 0604
				1993 0604

PRIORITY APPLN. INFO.:

JP 1993-134723

AB Title compns. are prepared by hydrolytic polymerization of 1-75 parts organic

silanes having ≥ 4 functional groups and 25-99 parts organic silanes having ≤ 3 functional groups. A composition containing methyl Cellosolve, an Al catalyst, a metal oxide sol, and condensate of $\text{Si}(\text{OEt})_4$ and 3-glycidoxypropyltriethoxysilane was coated on a polyurethane lens to give a lens with high scratch resistance.

IT **162281-06-3P**
(hard **coatings** for **plastic** lenses)

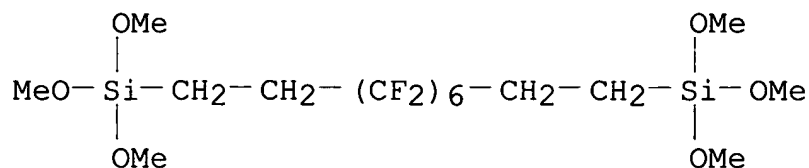
RN 162281-06-3 HCAPLUS

CN 2,15-Dioxa-3,14-disilahexadecane, 6,6,7,7,8,8,9,9,10,10,11,11-dodecafluoro-3,3,14,14-tetramethoxy-, polymer with triethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 94403-04-0

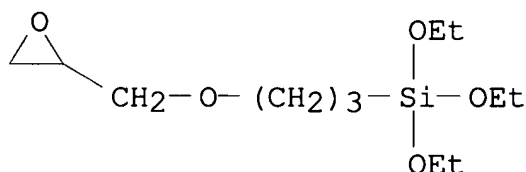
CMF C16 H26 F12 O6 Si2



CM 2

CRN 2602-34-8

CMF C12 H26 O5 Si



IC ICM G02B001-10

ICS C08G077-02; C09D183-02

CC 42-10 (Coatings, Inks, and Related Products)

IT 162281-03-0P 162281-04-1P 162281-05-2P **162281-06-3P**

162281-07-4P 162281-08-5P

(hard **coatings** for **plastic** lenses)

L24 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:441537 HCAPLUS

DOCUMENT NUMBER: 123:59055

TITLE: Compositions for preparation of
water-repellent coatings on glassINVENTOR(S): Sakamoto, Yasuko; Nishida, Eiji; Aizawa,
Mamoru

PATENT ASSIGNEE(S): Nippon Soda Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 07018254	A2	19950120	JP 1993-188958	

1993

PRIORITY APPLN. INFO.:

JP 1993-188958

0701

1993

0701

AB The title compns., giving abrasion-resistant coatings, are prepared from alkoxysilanes and F-containing silanes in the presence of carboxylic acids or anhydrides. A mixture of 1.0 mol (MeO)₄Si, 1.0 mol AcOEt, 500 g EtOH, and 1.2 mol aqueous HCl was refluxed, cooled, mixed with 0.01 mol C₈F₁₇CH₂CH₂Si(OMe)₃ and 600 g EtOH, and stirred 1 h to give a composition which was applied on glass and cured 30 min at 380° to form a coating showing H₂O contact angle 105°.

IT **159970-30-6P 165181-55-5P 165181-56-6P**
(for abrasion-resistant water-repellent **coatings** on **glass**)

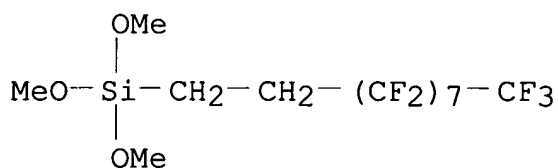
RN 159970-30-6 HCAPLUS

CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with (3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 83048-65-1

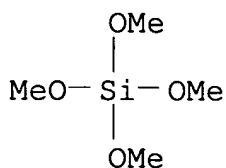
CMF C13 H13 F17 O3 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si

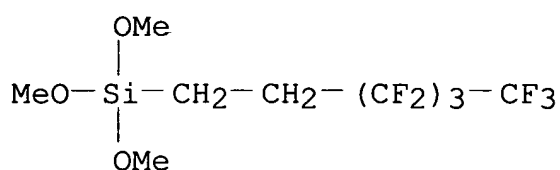


RN 165181-55-5 HCAPLUS
CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with
trimethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)silane (9CI) (CA
INDEX NAME)

CM 1

CRN 85877-79-8

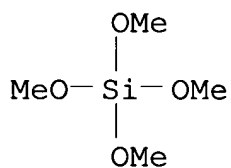
CMF C9 H13 F9 O3 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si

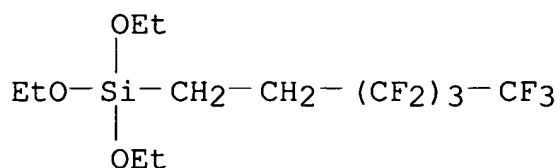


RN 165181-56-6 HCAPLUS
CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with
triethoxy(3,3,4,4,5,5,6,6,6-nonafluorohexyl)silane (9CI) (CA
INDEX NAME)

CM 1

CRN 102390-98-7

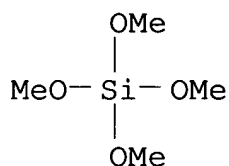
CMF C12 H19 F9 O3 Si



CM 2

CRN 681-84-5

CMF C4 H12 O4 Si



IC ICM C09K003-18

ICS C03C017-30

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT **159970-30-6P 165181-55-5P 165181-56-6P**(for abrasion-resistant water-repellent **coatings** on **glass**)

L24 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:330786 HCAPLUS

DOCUMENT NUMBER: 122:108850

TITLE: Water-repellent fluorine-containing silicon
oxide coatingsINVENTOR(S): Sumi, Toshio; Matsuda, Atsunori; Ogino, Etsuo;
Soejima, Ayako

PATENT ASSIGNEE(S): Nippon Sheet Glass Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	

JP 06228755

A2

19940816

JP 1993-16332

1993
0203

PRIORITY APPLN. INFO.:

JP 1993-16332

1993
0203

AB Coatings are formed by treating substrates with SiH₄, SiCl₄, or tetraalkoxy(C1-4)silanes and fluoroalkylalkoxysilanes in the presence of oxidizing gases and plasma. Thus, a Si wafer was treated with SiH₄ and pentadecafluoro-1,1,2,2-tetrahydrodecyl-1-triethoxysilane in the presence of Ar plasma and O to form a coating.

IT **160687-77-4P 160718-35-4P**

(water-repellent fluorine-containing silicon oxide **coatings** on **glass** and silicon wafer)

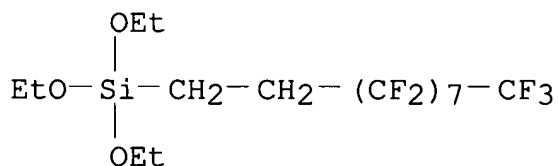
RN 160687-77-4 HCAPLUS

CN Silicic acid (H₄SiO₄), tetramethyl ester, polymer with triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)silane (9CI) (CA INDEX NAME)

CM 1

CRN 101947-16-4

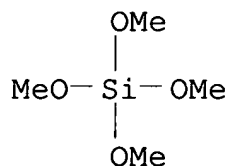
CMF C16 H19 F17 O3 Si



CM 2

CRN 681-84-5

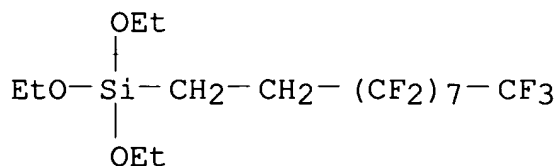
CMF C4 H12 O4 Si



RN 160718-35-4 HCAPLUS
CN Silane, triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, polymer with silane (9CI) (CA INDEX NAME)

CM 1

CRN 101947-16-4
CMF C16 H19 F17 O3 Si



CM 2

CRN 7803-62-5
CMF H4 Si

SiH₄

IC ICM C23C016-40
ICS C03C017-245
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 57, 76
IT **160687-77-4P** 160687-79-6P **160718-35-4P**
(water-repellent fluorine-containing silicon oxide **coatings**
on **glass** and silicon wafer)

L24 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:632687 HCAPLUS
DOCUMENT NUMBER: 121:232687
TITLE: Fluorosiloxanes-coated plastics films with
good water and oil repellent properties and
their manufacture
INVENTOR(S): Takada, Jusuke; Tsujimoto, Yoshinobu; Ogawa,
Kazufumi; Soga, Sanemori; Nakayama, Ichiro;
Tanno, Masuo
PATENT ASSIGNEE(S): Matsushita Electric Ind Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 06116430	A2	19940426	JP 1992-266169	1992 1005
JP 3358131	B2	20021216	JP 1992-266169	1992 1005

PRIORITY APPLN. INFO.:

AB The films are prepared by applying inorg. oxides on plastic films, etching, and reaction of fluorosilicon compds. on the surface of the inorg. oxides. Spattering silicon oxide on PET film, etching to form the surface roughness to 0.2 μm , and immersing the film in a solution containing $\text{CF}_3(\text{CF}_2)_7(\text{CH}_2)_2\text{SiCl}_3$ gave a sample showing water

contact angle 158.1° and transparency 85.6%.

IT **158322-19-1P 158322-20-4P**
 (fluorosiloxanes-**coated plastics** films with good water and oil repellent properties and their manufacture)

RN 158322-19-1 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)-, polymer with silica, graft (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{CH}_2-(\text{CF}_2)_7-\text{CF}_3$

CM 2

CRN 7631-86-9

CMF 02 Si

$\text{O}=\text{Si}=\text{O}$

RN 158322-20-4 HCAPLUS
CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)-,
polymer with silica, graft (9CI) (CA INDEX NAME)

CM 1

CRN 78560-45-9
CMF C8 H4 Cl3 F13 Si

$\text{Cl}_3\text{Si}-\text{CH}_2-\text{CH}_2-(\text{CF}_2)_5-\text{CF}_3$

CM 2

CRN 7631-86-9
CMF O2 Si

$\text{O}=\text{Si}=\text{O}$

IC ICM C08J007-04
ICS B32B003-30; B32B009-00; C08J005-18; C08J007-00; C09K003-18
CC 38-3 (Plastics Fabrication and Uses)
IT **158322-19-1P 158322-20-4P**
(fluorosiloxanes-**coated plastics** films with
good water and oil repellent properties and their manufacture)

L24 ANSWER 56 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:430047 HCAPLUS
DOCUMENT NUMBER: 119:30047
TITLE: Moisture-resistant glass articles and their
manufacture by coating
INVENTOR(S): Cunningham, Wells C.; Crouse, Kenneth L.
PATENT ASSIGNEE(S): Advanced Glass Treatment Systems, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9221492 A1 19921210 WO 1992-US3414

1992
0427

W: AU, CA, FI, JP, NO, PL

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE

AU 9219270 A1 19930108 AU 1992-19270

1992
0427

PRIORITY APPLN. INFO.:

US 1991-708931 A

1991
0531

WO 1992-US3414 A

1992
0427

AB The degradation of glass articles by water is decreased by polymerizing on the glass surface mixts. containing 1-30% silanes having ≥ 1 functional group capable of reacting with the glass surface and a nonhydrolyzable organic group capable of reacting with (meth)acryloyl groups, 10-74% monomers having 2 (meth)acryloyl groups, 5-50% monomers having ≥ 3 (meth)acryloyl groups, and 20-60% fluorinated (meth)acrylates. Thus, an abraded glass slide was coated with a composition containing 1,1,5-trihydroperfluoropentyl acrylate

25, 1,3-butanediol dimethacrylate 22.5, 1,3-butanediol diacrylate 22.5, trimethylolpropane triacrylate 10, (3-methacryloyloxypropyl)trimethoxysilane 14, and 2-hydroxy-2-methyl-1-phenyl-1-propanone 6% and UV-irradiated to give a sample with strength enhancement ratios 1.42 and 1.37 (compared with an uncoated slide) before and after immersion in water overnight.

IT **148507-16-8P 148507-17-9P 148507-18-0P**

(manufacture of, as waterproof **coating** for reinforcing **glass** articles)

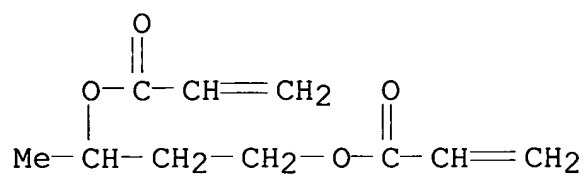
RN 148507-16-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, polymer with 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 1-methyl-1,3-propanediyl di-2-propenoate and 2,2,3,3,4,4,5,5-octafluoropentyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 19485-03-1

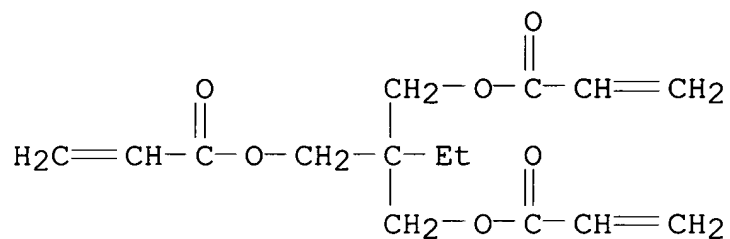
CMF C10 H14 O4



CM 2

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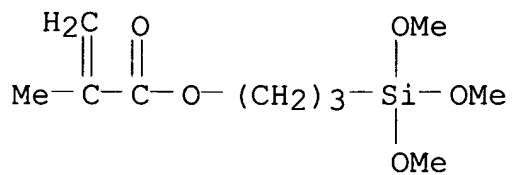
CMF C15 H20 O6



CM 3

CRN 2530-85-0

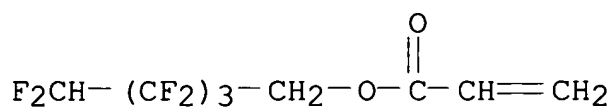
CMF C10 H20 O5 Si



CM 4

CRN 376-84-1

CMF C8 H6 F8 O2



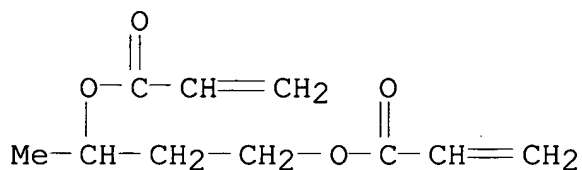
RN 148507-17-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1,3-propanediyl ester, polymer with 2-ethyl-2-[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 1-methyl-1,3-propanediyl di-2-propenoate, 2,2,3,3,4,4,5,5-octafluoropentyl 2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 19485-03-1

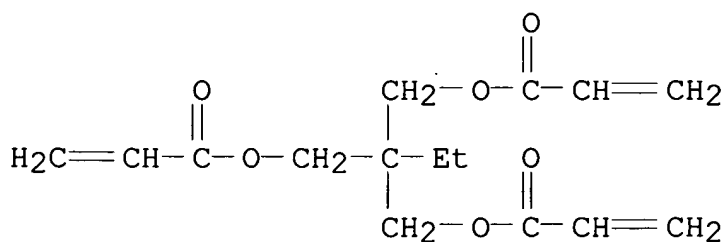
CMF C10 H14 O4



CM 2

CRN 15625-89-5

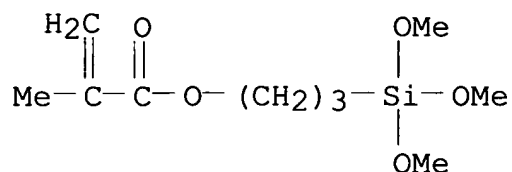
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CM 3

CRN 2530-85-0

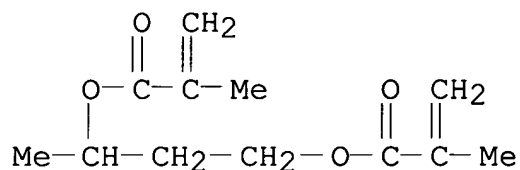
CMF C10 H20 O5 Si



CM 4

CRN 1189-08-8

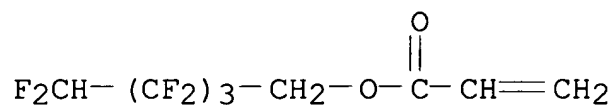
CMF C12 H18 O4



CM 5

CRN 376-84-1

CMF C8 H6 F8 O2



RN 148507-18-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1,3-propanediyl ester, polymer with 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2,2,3,3,4,4,5,5-octafluoropentyl 2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

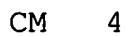
CMF C15 H20 O6



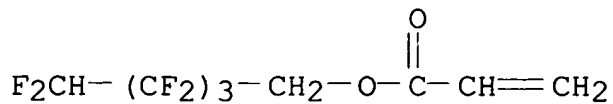
CMF C10 H20 O5 Si



CMF C12 H18 O4



CMF C8 H6 F8 O2



IC ICM B28B021-00
ICS B32B017-10; C08F002-46
CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 57
IT **148507-16-8P 148507-17-9P 148507-18-0P**
148507-19-1P 148507-20-4P
(manufacture of, as waterproof **coating** for reinforcing
glass articles)